



## SEQUENCE LISTING

<110> Malyankar et al.

<120> Novel Polypeptides and Nucleic Acids Encoding Same

<130> 15966-675 CIP2

<140> 09/970,607

<141> 2001-10-03

<150> 60/182,733

<151> 2000-02-15

<150> 60/182,724

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<150> 60/183,896

<151> 2000-02-22

<150> 60/184,497

<151> 2000-02-23

<150> 60/224,157

<151> 2000-08-10

<150> 60/184,482

<151> 2000-02-23

<150> 60/184,744

<151> 2000-02-24

<150> 60/197,083

<151> 2000-04-13

<150> 60/233,405

<151> 2000-09-18

<150> 60/236,060

<151> 2000-09-27

<150> 60/259,414

<151> 2001-01-02

<150> 60/262,454

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<150> 09/898,954

<151> 2001-07-03

<150> 09/783,429

<151> 2001-02-14

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<170> PatentIn Ver. 2.1

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Thr Glu Glu Lys Arg Gln Glu Glu Glu Pro Pro Thr Asp Asn Gln Gly
      35             40             45

Pro Asp Met Glu Ala Phe Gln Gln Glu Leu Ala Leu Leu Lys Ile Glu
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Asp Glu Pro Gly Asp Gly Pro Asp Val Arg Glu Gly Ile Met Pro Thr
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actgaggaaa aacgtcaaga agaggaaacca ccaactgata atcagggtat tgcacctagt 180
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 gtttcaagca agacaaatga agactgaaac caagaacgtt attcttaatc tggaaatttg 420  
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             35                    40                    45  
 Ile Ala Pro Ser Gly Glu Ile Glu Asn Glu Gly Ala Pro Ala Val Gln  
             50                    55                    60  
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     65                    70                    75                    80  
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1051

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Thr Glu Glu Lys Arg Gln Glu Glu Glu Pro Pro Thr Asp Asn Gln Gly  
35 40 45  
Ile Ala Pro Ser Gly Glu Ile Glu Asn Gln Ala Val Pro Ala Phe Gln  
50 55 60  
Gly Pro Asp Met Glu Ala Phe Gln Gln Glu Leu Ala Leu Leu Lys Ile  
65 70 75 80  
Glu Asp Glu Pro Gly Asp Gly Pro Asp Val Arg Glu Gly Ile Met Pro  
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Thr Phe Asp Leu Thr Lys Val Leu Glu Ala Gly Asp Ala Gln Pro  
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<212> PRT  
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<400> 8

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			20					25					30		
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		35					40					45			
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	50					55					60				
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65					70					75					80
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Gln	Ser	Thr	Leu	Lys	Cys	Gln	Lys	Gln	Val	Lys	Gly	Asn	His	Arg	Phe
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Lys	Gly	Arg													
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 Leu Asn Val His Leu Arg Arg Val Thr Trp Gln Asn Leu Arg His Leu  
                   35                                  40                                  45  
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                   50                                  55                                  60  
 Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr Thr Gln Pro Met Lys  
                   65                                  70                                  75                                  80  
 Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser Leu Gln Ala Phe Asn  
                                   85                                  90                                  95  
 Ile Phe Ser Gln His Thr Phe Lys Tyr Trp Lys Glu Arg His Leu Lys  
                                   100                                  105                                  110  
 Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu Tyr Leu Asn Gln Cys  
                   115                                  120                                  125  
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                   130                                  135                                  140  
 Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro Gln Leu Ser Ser Leu  
                   145                                  150                                  155                                  160  
 Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn Phe Leu Lys Glu Lys  
                                   165                                  170                                  175  
 Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg Val Glu Ile Arg Arg  
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 Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser Leu Gln Ala Phe Asn  
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 Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu Tyr Leu Asn Gln Cys  
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 Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn Phe Leu Lys Glu Lys  
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      35              40              45

Thr Tyr Ala Val Gly Ala Ala Cys Thr Pro Arg Ala Pro Arg Glu Leu
      50              55              60

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Gly Ala Gly Arg Pro Leu Pro Leu Gln Val Arg Leu Val Ala Arg Ser

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1780	1785	1790
Leu Ile Glu Leu Lys Asn Val Lys Glu Asp Ser Glu Met Lys His Leu		
1795	1800	1805
Val Thr Met Thr Leu Asp Tyr Gly Met Asp Gln Asn Lys Ala Asp Ile		
1810	1815	1820
Gly Gly Met Leu Pro Gly Leu Thr Val Arg Ser Val Val Val Gly Gly		
1825	1830	1835
Ala Ser Glu Asp Lys Val Ser Val Arg Arg Gly Phe Arg Gly Cys Met		
1845	1850	1855
Gln Gly Val Arg Met Gly Gly Thr Pro Thr Asn Val Ala Thr Leu Asn		
1860	1865	1870
Met Asn Asn Ala Leu Lys Val Arg Val Lys Asp Gly Cys Asp Val Asp		
1875	1880	1885
Asp Pro Cys Thr Ser Ser Pro Cys Pro Pro Asn Ser Arg Cys His Asp		
1890	1895	1900
Ala Trp Glu Asp Tyr Ser Cys Val Cys Asp Lys Gly Tyr Leu Gly Ile		

1905		1910		1915		1920
Asn Cys Val Asp	Ala Cys His Leu	Asn Pro Cys Glu	Asn Met Gly	Ala		
	1925		1930		1935	
Cys Val Arg Ser	Pro Gly Ser Pro	Gln Gly Tyr Val	Cys Glu Cys Gly			
	1940		1945		1950	
Pro Ser His Tyr	Gly Pro Tyr Cys	Glu Asn Lys Leu	Asp Leu Pro Cys			
	1955		1960		1965	
Pro Arg Gly Trp	Trp Gly Asn Pro	Val Cys Gly Pro	Cys His Cys Ala			
	1970		1975		1980	
Val Ser Lys Gly	Phe Asp Pro Asp	Cys Asn Lys Thr	Asn Gly Gln Cys			
	1985		1990		1995	2000
Gln Cys Lys Glu	Asn Tyr Tyr Lys	Leu Leu Ala Gln	Asp Thr Cys Leu			
	2005		2010		2015	
Pro Cys Asp Cys	Phe Pro His Gly	Ser His Ser Arg	Thr Cys Asp Met			
	2020		2025		2030	
Ala Thr Gly Gln	Cys Ala Cys Lys	Pro Gly Val Ile	Gly Arg Gln Cys			
	2035		2040		2045	
Asn Arg Cys Asp	Asn Pro Phe Ala	Glu Val Thr Thr	Leu Gly Cys Glu			
	2050		2055		2060	
Val Ile Tyr Asn	Gly Cys Pro Lys	Ala Phe Glu Ala	Gly Ile Trp Trp			
	2065		2070		2075	2080
Pro Gln Thr Lys	Phe Gly Gln Pro	Ala Ala Val Pro	Cys Pro Lys Gly			
	2085		2090		2095	
Ser Val Gly Asn	Ala Val Arg His	Cys Ser Gly Glu	Lys Gly Trp Leu			
	2100		2105		2110	
Pro Pro Glu Leu	Phe Asn Cys Thr	Thr Ile Ser Phe	Val Asp Leu Arg			
	2115		2120		2125	
Ala Met Asn Glu	Lys Leu Ser Arg	Asn Glu Thr Gln	Val Asp Gly Ala			
	2130		2135		2140	
Arg Ala Leu Gln	Leu Val Arg Ala	Leu Arg Ser Ala	Thr Gln His Thr			
	2145		2150		2155	2160
Gly Thr Leu Phe	Gly Asn Asp Val	Arg Thr Ala Tyr	Gln Leu Leu Gly			
	2165		2170		2175	
His Val Leu Gln	His Glu Ser Trp	Gln Gln Gly Phe	Asp Leu Ala Ala			
	2180		2185		2190	
Thr Gln Asp Ala	Asp Phe His Glu	Asp Val Ile His	Ser Gly Ser Ala			
	2195		2200		2205	
Leu Leu Ala Pro	Ala Thr Arg Ala	Ala Trp Glu Gln	Ile Gln Arg Ser			

2210	2215	2220
Glu Gly Gly Thr Ala Gln Leu Leu Arg Arg Leu Glu Gly Tyr Phe Ser		
2225	2230	2235 2240
Asn Val Ala Arg Asn Val Arg Arg Thr Tyr Leu Arg Pro Phe Val Ile		
2245	2250	2255
Val Thr Ala Asn Met Val Leu Ala Val Asp Ile Phe Asp Lys Phe Asn		
2260	2265	2270
Phe Thr Gly Ala Arg Val Pro Arg Phe Asp Thr Ile His Glu Glu Phe		
2275	2280	2285
Pro Arg Glu Leu Glu Ser Ser Val Ser Phe Pro Ala Asp Phe Phe Arg		
2290	2295	2300
Pro Pro Glu Glu Lys Glu Gly Pro Leu Leu Arg Pro Ala Gly Arg Arg		
2305	2310	2315 2320
Thr Thr Pro Gln Thr Thr Arg Pro Gly Pro Gly Thr Glu Arg Glu Ala		
2325	2330	2335
Pro Ile Ser Arg Arg Arg Arg His Pro Asp Asp Ala Gly Gln Phe Ala		
2340	2345	2350
Val Ala Leu Val Ile Ile Tyr Arg Thr Leu Gly Gln Leu Leu Pro Glu		
2355	2360	2365
Arg Tyr Asp Pro Asp Arg Arg Ser Leu Arg Leu Pro His Arg Pro Ile		
2370	2375	2380
Ile Asn Thr Pro Met Val Ser Thr Leu Val Tyr Ser Glu Gly Ala Pro		
2385	2390	2395 2400
Leu Pro Arg Pro Leu Glu Arg Pro Val Leu Val Glu Phe Ala Leu Leu		
2405	2410	2415
Glu Val Glu Glu Arg Thr Lys Pro Val Cys Val Phe Trp Asn His Ser		
2420	2425	2430
Leu Ala Val Gly Gly Thr Gly Gly Trp Ser Ala Arg Gly Cys Glu Leu		
2435	2440	2445
Leu Ser Arg Asn Arg Thr His Val Ala Cys Gln Cys Ser His Thr Ala		
2450	2455	2460
Ser Phe Ala Val Leu Met Asp Ile Ser Arg Arg Glu Asn Gly Glu Val		
2465	2470	2475 2480
Leu Pro Leu Lys Ile Val Thr Tyr Ala Ala Val Ser Leu Ser Leu Ala		
2485	2490	2495
Ala Leu Leu Val Ala Phe Val Leu Leu Ser Leu Val Arg Met Leu Arg		
2500	2505	2510
Ser Asn Leu His Ser Ile His Lys His Leu Ala Val Ala Leu Phe Leu		

2515	2520	2525
Ser Gln Leu Val Phe Val Ile Gly Ile Asn Gln Thr Glu Asn Pro Phe		
2530	2535	2540
Leu Cys Thr Val Val Ala Ile Leu Leu His Tyr Ile Tyr Met Ser Thr		
2545	2550	2555 2560
Phe Ala Trp Thr Leu Val Glu Ser Leu His Val Tyr Arg Met Leu Thr		
2565	2570	2575
Glu Val Arg Asn Ile Asp Thr Gly Pro Met Arg Phe Tyr Tyr Val Val		
2580	2585	2590
Gly Trp Gly Ile Pro Ala Ile Val Thr Gly Leu Ala Val Gly Leu Asp		
2595	2600	2605
Pro Gln Gly Tyr Gly Asn Pro Asp Phe Cys Trp Leu Ser Leu Gln Asp		
2610	2615	2620
Thr Leu Ile Trp Ser Phe Ala Gly Pro Ile Gly Ala Val Ile Ile Ile		
2625	2630	2635 2640
Asn Thr Val Thr Ser Val Leu Ser Ala Lys Val Ser Cys Gln Arg Lys		
2645	2650	2655
His His Tyr Tyr Gly Lys Lys Gly Ile Val Ser Leu Leu Arg Thr Ala		
2660	2665	2670
Phe Leu Leu Leu Leu Leu Ile Ser Ala Thr Trp Leu Leu Gly Leu Leu		
2675	2680	2685
Ala Val Asn Arg Asp Ala Leu Ser Phe His Tyr Leu Phe Ala Ile Phe		
2690	2695	2700
Ser Gly Leu Gln Gly Pro Phe Val Leu Leu Phe His Cys Val Leu Asn		
2705	2710	2715 2720
Gln Glu Val Arg Lys His Leu Lys Gly Val Leu Gly Gly Arg Lys Leu		
2725	2730	2735
His Leu Glu Asp Ser Ala Thr Thr Arg Ala Thr Leu Leu Thr Arg Ser		
2740	2745	2750
Leu Asn Cys Asn Thr Thr Phe Gly Asp Gly Pro Asp Met Leu Arg Thr		
2755	2760	2765
Asp Leu Gly Glu Ser Thr Ala Ser Leu Asp Ser Ile Val Arg Asp Glu		
2770	2775	2780
Gly Ile Gln Lys Leu Gly Val Ser Ser Gly Leu Val Arg Gly Ser His		
2785	2790	2795 2800
Gly Glu Pro Asp Ala Ser Leu Met Pro Arg Ser Cys Lys Asp Pro Pro		
2805	2810	2815
Gly His Asp Ser Asp Ser Asp Ser Glu Leu Ser Leu Asp Glu Gln Ser		

2820	2825	2830
Ser Ser Tyr Ala Ser Ser His Ser Ser Asp Ser Glu Asp Asp Gly Val		
2835	2840	2845
Gly Ala Glu Glu Lys Trp Asp Pro Ala Arg Gly Ala Val His Ser Thr		
2850	2855	2860
Pro Lys Gly Asp Ala Val Ala Asn His Val Pro Ala Gly Trp Pro Asp		
2865	2870	2880
Gln Ser Leu Ala Glu Ser Asp Ser Glu Asp Pro Ser Gly Lys Pro Arg		
2885	2890	2895
Leu Lys Val Glu Thr Lys Val Ser Val Glu Leu His Arg Glu Glu Gln		
2900	2905	2910
Gly Ser His Arg Gly Glu Tyr Pro Pro Asp Gln Glu Ser Gly Gly Ala		
2915	2920	2925
Ala Arg Leu Ala Ser Ser Gln Pro Pro Glu Gln Arg Ser Ile Leu Lys		
2930	2935	2940
Asn Lys Val Thr Tyr Pro Pro Pro Leu Thr Leu Thr Glu Gln Thr Leu		
2945	2950	2955
Lys Gly Arg Leu Arg Glu Lys Leu Ala Asp Cys Glu Gln Ser Pro Thr		
2965	2970	2975
Ser Ser Arg Thr Ser Ser Leu Gly Ser Gly Gly Pro Asp Cys Ala Ile		
2980	2985	2990
Thr Val Lys Ser Pro Gly Arg Glu Pro Gly Arg Asp His Leu Asn Gly		
2995	3000	3005
Val Ala Met Asn Val Arg Thr Gly Ser Ala Gln Ala Asp Gly Ser Asp		
3010	3015	3020
Ser Glu Lys Pro		
3025		

<210> 15  
 <211> 948  
 <212> DNA  
 <213> Homo sapiens

<400> 15  
 tgaccctccc ctgcctgatg ggctctgtgc ccaggaaccc aggcgagtcc gccccaccca 60  
 atgcccctgc tgcccagccg gtctctcctg gtgcccctga gctctgggaa gaccctcgtc 120  
 cgtccccctc atgagcccgg cacggggcgt gagctggtgg gcatcactgg gggctgcgac 180  
 gtctcggcca ggaggcacc ctggcaggtc agcctgaggt tctacagcat gaagaagggt 240  
 ctgtgggagc ccatctgtgg gggctccctc atccaccag agtgggtgct gaccgccgcc 300  
 cactgccttg ggcctgagga gttggaggct tgcgcgttta gagtgcaggt ggggcagctg 360  
 aggctctatg aggacgacca gcggacgaag gtggttgaga tcgtccgtca ccccagtac 420  
 aacgagagcc tgtctgcca gggcggtgcg gacatcgccc tgctgaagct ggaggccccg 480  
 gtgccgctgt ctgagctcat ccaccgggtc tcgctcccgt ctgcctccct ggacgtgccc 540



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tcggggaaga cctgctgggt gaccggctgg ggtgtcattg gacgtggaga actactgccc 600
tggccccctca gcttgtggga ggcgacgggt aaggtcagga gcaacgtcct ctgtaaccag 660
acctgtcgcc gccgctttcc ttccaaccac actgagcgggt ttgagcggct catcaaggac 720
gacatgctgt gtgccgggga cgagcgccat ctctccccac agggcgacaa cgggggcccc 780
ctcctgtgca ggcggaattg cacctgggtc caggtggagg tggtagctg gggcaaactc 840
tgcggccttc gcggctatcc cgcatgtac acccgctga cgagctacgt gtcctggatc 900
cgccagtacg tcccgccggt cccagacgc tagctggggt gcagtggg 948

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<210> 16
<211> 290
<212> PRT
<213> Homo sapiens

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<400> 16
Met Pro Leu Leu Pro Ser Arg Ser Leu Leu Val Pro Leu Ser Ser Gly
  1              5              10              15

Lys Thr Leu Val Arg Pro Pro His Glu Pro Gly Thr Gly Arg Glu Leu
      20              25              30

Val Gly Ile Thr Gly Gly Cys Asp Val Ser Ala Arg Arg His Pro Trp
      35              40              45

Gln Val Ser Leu Arg Phe Tyr Ser Met Lys Lys Gly Leu Trp Glu Pro
      50              55              60

Ile Cys Gly Gly Ser Leu Ile His Pro Glu Trp Val Leu Thr Ala Ala
      65              70              75              80

His Cys Leu Gly Pro Glu Glu Leu Glu Ala Cys Ala Phe Arg Val Gln
      85              90              95

Val Gly Gln Leu Arg Leu Tyr Glu Asp Asp Gln Arg Thr Lys Val Val
      100              105              110

Glu Ile Val Arg His Pro Gln Tyr Asn Glu Ser Leu Ser Ala Gln Gly
      115              120              125

Gly Ala Asp Ile Ala Leu Leu Lys Leu Glu Ala Pro Val Pro Leu Ser
      130              135              140

Glu Leu Ile His Pro Val Ser Leu Pro Ser Ala Ser Leu Asp Val Pro
      145              150              155              160

Ser Gly Lys Thr Cys Trp Val Thr Gly Trp Gly Val Ile Gly Arg Gly
      165              170              175

Glu Leu Leu Pro Trp Pro Leu Ser Leu Trp Glu Ala Thr Val Lys Val
      180              185              190

Arg Ser Asn Val Leu Cys Asn Gln Thr Cys Arg Arg Arg Phe Pro Ser
      195              200              205

Asn His Thr Glu Arg Phe Glu Arg Leu Ile Lys Asp Asp Met Leu Cys
      210              215              220

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Ala Gly Asp Glu Arg His Leu Ser Pro Gln Gly Asp Asn Gly Gly Pro  
 225 230 235 240

Leu Leu Cys Arg Arg Asn Cys Thr Trp Val Gln Val Glu Val Val Ser  
 245 250 255

Trp Gly Lys Leu Cys Gly Leu Arg Gly Tyr Pro Gly Met Tyr Thr Arg  
 260 265 270

Val Thr Ser Tyr Val Ser Trp Ile Arg Gln Tyr Val Pro Pro Phe Pro  
 275 280 285

Arg Arg  
 290

<210> 17  
 <211> 542  
 <212> DNA  
 <213> Homo sapiens

<400> 17  
 tatgccatgt atacgaattc gagctcctac cagactggcc cgaatcatga gttctacaag 60  
 aacgccgacg tccggccccc cttcacctac gcctccctca tccgccaggc catcctggaa 120  
 acccctgaca ggcagctgac cctgaatgag atctataact gggtcaccag gatgttcgcc 180  
 tatttccgca gaaacactgc cacctggaag aacgccgtgc gccacaacct cagcctgcac 240  
 aagtgcctcg tccgcgtgga gaacgtcaag ggtgccgtgt ggactgtgga cgagcgggag 300  
 tatcagaagc ggagaccgcc aaagatgaca gggatatgtg gtccagagct ggatgggctg 360  
 tacctgcccc gggggcagga gccaaactcac ccccaacccc tacctctcca gggtacacat 420  
 gtgcaccaga tccttcctgg ctgggggaag ggggtgtggg agaaaggagc agaggagact 480  
 agtgcttggg gacagggggc tggaatccgg aagtgatgga taatcagaag gcagacattt 540  
 at 542

<210> 18  
 <211> 169  
 <212> PRT  
 <213> Homo sapiens

<400> 18  
 Met Tyr Thr Asn Ser Ser Ser Tyr Gln Thr Gly Pro Asn His Glu Phe  
 1 5 10 15

Tyr Lys Asn Ala Asp Val Arg Pro Pro Phe Thr Tyr Ala Ser Leu Ile  
 20 25 30

Arg Gln Ala Ile Leu Glu Thr Pro Asp Arg Gln Leu Thr Leu Asn Glu  
 35 40 45

Ile Tyr Asn Trp Phe Thr Arg Met Phe Ala Tyr Phe Arg Arg Asn Thr  
 50 55 60

Ala Thr Trp Lys Asn Ala Val Arg His Asn Leu Ser Leu His Lys Cys  
 65 70 75 80

Phe Val Arg Val Glu Asn Val Lys Gly Ala Val Trp Thr Val Asp Glu  
 85 90 95

Arg Glu Tyr Gln Lys Arg Arg Pro Pro Lys Met Thr Gly Tyr Val Gly  
100 105 110

Pro Glu Leu Asp Gly Leu Tyr Leu Pro Arg Gly Gln Glu Pro Thr His  
115 120 125

Pro His Pro Leu Pro Leu Gln Gly Thr His Val His Gln Ile Leu Pro  
130 135 140

Gly Trp Gly Lys Gly Cys Gly Glu Lys Gly Ala Glu Glu Thr Ser Ala  
145 150 155 160

Trp Gly Gln Gly Ala Gly Ile Arg Lys  
165

<210> 19  
<211> 870  
<212> DNA  
<213> Homo sapiens

<400> 19  
atctggccag agtgggcttg gccagttgtg gtgggcacca ccatgctgct gctgctgctg 60  
ttcctggctg tctcctccct ggggagctgt agcactggga gtccagctcc cgtccccgag 120  
aatgacctgg tgggcattgt gggggggccac aacacccagg ggaagtggc gtggcaggtc 180  
agcctgagga tctatagcta ccaactgggccc tcttgggtgc ccatctgcgg gggctccctc 240  
atccaccccc agtgggtgct gaccgccgct cactgcattt tccggaagga caccgacctg 300  
tccacctacc ggattcacac cagggatgtg tatctgtacg ggggcccggg gctgctgaat 360  
gtcagccaga tcgtcgtcca cccaactac tctgtcttct tcttgggggc agacatcgcc 420  
ctgctgaagc tggccaccag tgtgagaaca acaaactc tcgcggcagt cgccctgccg 480  
tcattgtccc tggagttcac tgacagtgc aactgctgga acacaggctg gggcatggtc 540  
ggcttggttg atatgctgcc gcctccttac cgcccgcagc aggtgaaggc cctcacactg 600  
agcaatgcag actgtgagcg gcagacctac gatgcttttc ctggtgctgg agacagaaag 660  
ttcatccagg atgacatgat ctgtgccggc cgcacggggc gccgcacctg gaagggtgac 720  
tcaggcggcc ccctgggtctg caagaagaag ggtacctggc tccaggcggg agtagtgagc 780  
tggggatttt acagtgatcg gcccagcatt ggcgtctaca cgtgggtcca gacctatgtg 840  
ccctggatcc tgcagcaaat gcacctctaa 870

<210> 20  
<211> 275  
<212> PRT  
<213> Homo sapiens

<400> 20  
Met Leu Leu Leu Leu Leu Phe Leu Ala Val Ser Ser Leu Gly Ser Cys  
1 5 10 15

Ser Thr Gly Ser Pro Ala Pro Val Pro Glu Asn Asp Leu Val Gly Ile  
20 25 30

Val Gly Gly His Asn Thr Gln Gly Lys Trp Ser Trp Gln Val Ser Leu  
35 40 45

Arg Ile Tyr Ser Tyr His Trp Ala Ser Trp Val Pro Ile Cys Gly Gly  
50 55 60

Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Ile Phe  
 65 70 75 80  
 Arg Lys Asp Thr Asp Pro Ser Thr Tyr Arg Ile His Thr Arg Asp Val  
 85 90 95  
 Tyr Leu Tyr Gly Gly Arg Gly Leu Leu Asn Val Ser Gln Ile Val Val  
 100 105 110  
 His Pro Asn Tyr Ser Val Phe Phe Leu Gly Ala Asp Ile Ala Leu Leu  
 115 120 125  
 Lys Leu Ala Thr Ser Val Arg Thr Thr Asn Thr Leu Ala Ala Val Ala  
 130 135 140  
 Leu Pro Ser Leu Ser Leu Glu Phe Thr Asp Ser Asp Asn Cys Trp Asn  
 145 150 155 160  
 Thr Gly Trp Gly Met Val Gly Leu Leu Asp Met Leu Pro Pro Pro Tyr  
 165 170 175  
 Arg Pro Gln Gln Val Lys Val Leu Thr Leu Ser Asn Ala Asp Cys Glu  
 180 185 190  
 Arg Gln Thr Tyr Asp Ala Phe Pro Gly Ala Gly Asp Arg Lys Phe Ile  
 195 200 205  
 Gln Asp Asp Met Ile Cys Ala Gly Arg Thr Gly Arg Arg Thr Trp Lys  
 210 215 220  
 Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Lys Lys Gly Thr Trp Leu  
 225 230 235 240  
 Gln Ala Gly Val Val Ser Trp Gly Phe Tyr Ser Asp Arg Pro Ser Ile  
 245 250 255  
 Gly Val Tyr Thr Trp Val Gln Thr Tyr Val Pro Trp Ile Leu Gln Gln  
 260 265 270  
 Met His Leu  
 275

<210> 21  
 <211> 858  
 <212> DNA  
 <213> Homo sapiens

<400> 21  
 atgctgtggc tactgctcct gaccctcccc tgcctgatgg gctctgtgcc caggaaccca 60  
 ggcgagggca cggggcgtga gctggtgggc atcactgggg gctgcgacgt ctcggccagg 120  
 aggcaccctt ggcaggtcag cctgaggttc tacagcatga agaagggctc gtgggagccc 180  
 atctgtgggg gctccctcat ccaccagag tgggtgctga ccgccgcca ctgccttttg 240  
 gaggagttag aggcttgccg gtttagagtg cagggtggggc agctgaggct ctatgaggac 300  
 gaccagcggc cgaaggtggg tgagatcgtc cgtcaccccc agtacaacga gagcctgtct 360  
 gcccgaggcg gtgcggacat cgccctgctg aagctggagg ccccggtgcc gctgtctgag 420

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ctcatccacc cggctctcgct cccgtctgcc tccctggacg tgccctcggg gaagacctgc 480
tgggtgaccg gctgggggtgt cattggacgt ggagaactac tgccctggcc cctcagcttg 540
tgggagggcga cggatgaaggt caggagcaac gtcctctgta accagacctg tcgccgccgc 600
tttccttcca accacactga gcggtttgag cggctcatca aggacgacat gctgtgtgcc 660
ggggacggga accacggctc ctggccaggc gacaacgggg gccccctcct gtgcaggcgg 720
aattgcacct ggggtccaggt ggaggtggtg agctggggca aactctgcgg ccttcgcggc 780
tatcccggca tgtacacccg cgtgacgagc tacgtgtcct ggatccgcca gtacgtcccg 840
ccgttcccca gacgctag                                     858

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<210> 22
<211> 285
<212> PRT
<213> Homo sapiens

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<400> 22
Met Leu Trp Leu Leu Leu Leu Thr Leu Pro Cys Leu Met Gly Ser Val
  1               5               10              15

Pro Arg Asn Pro Gly Glu Gly Thr Gly Arg Glu Leu Val Gly Ile Thr
      20              25              30

Gly Gly Cys Asp Val Ser Ala Arg Arg His Pro Trp Gln Val Ser Leu
      35              40              45

Arg Phe Tyr Ser Met Lys Lys Gly Leu Trp Glu Pro Ile Cys Gly Gly
      50              55              60

Ser Leu Ile His Pro Glu Trp Val Leu Thr Ala Ala His Cys Leu Leu
      65              70              75              80

Glu Glu Leu Glu Ala Cys Ala Phe Arg Val Gln Val Gly Gln Leu Arg
      85              90              95

Leu Tyr Glu Asp Asp Gln Arg Thr Lys Val Val Glu Ile Val Arg His
      100             105             110

Pro Gln Tyr Asn Glu Ser Leu Ser Ala Gln Gly Gly Ala Asp Ile Ala
      115             120             125

Leu Leu Lys Leu Glu Ala Pro Val Pro Leu Ser Glu Leu Ile His Pro
      130             135             140

Val Ser Leu Pro Ser Ala Ser Leu Asp Val Pro Ser Gly Lys Thr Cys
      145             150             155             160

Trp Val Thr Gly Trp Gly Val Ile Gly Arg Gly Glu Leu Leu Pro Trp
      165             170             175

Pro Leu Ser Leu Trp Glu Ala Thr Val Lys Val Arg Ser Asn Val Leu
      180             185             190

Cys Asn Gln Thr Cys Arg Arg Arg Phe Pro Ser Asn His Thr Glu Arg
      195             200             205

Phe Glu Arg Leu Ile Lys Asp Asp Met Leu Cys Ala Gly Asp Gly Asn
      210             215             220

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His Gly Ser Trp Pro Gly Asp Asn Gly Gly Pro Leu Leu Cys Arg Arg  
 225 230 235 240  
 Asn Cys Thr Trp Val Gln Val Glu Val Val Ser Trp Gly Lys Leu Cys  
 245 250 255  
 Gly Leu Arg Gly Tyr Pro Gly Met Tyr Thr Arg Val Thr Ser Tyr Val  
 260 265 270  
 Ser Trp Ile Arg Gln Tyr Val Pro Pro Phe Pro Arg Arg  
 275 280 285

<210> 23  
 <211> 660  
 <212> DNA  
 <213> Homo sapiens

<400> 23  
 tcactggggg ctgcgacgtc tcggccagga ggcacccctg gcagggagga gttggaggct 60  
 tgcgcgttta gactgcaggt ggggcagctg aggctctatg aggacgacca gcggacgaag 120  
 gtgggtgaga tcgtccgtca cccccagtac aacgagagcc tgtctgcca gggcgggtgcg 180  
 gacatcgccc tgctgaagct ggaggccccg gtgccgtgt ctgagctcat ccaccggtc 240  
 tcgctcccggt ctgcctcccg ggacgtgccc tcggggaaga cctgctgggt gaccggctgg 300  
 ggtgtcattg gacgtggaga actactgccc tggcccctca gcttgtggga ggcgacgggtg 360  
 aaggtcagga gcaacgtcct ctgtaaccag acctgtcgcc gccgctttcc ttccaaccac 420  
 actgagcggg ttgagcggct catcaaggac gacatgctgt gtgccgggga cgggaaccac 480  
 ggctcctggc caggcgacaa cggggggcccc ctctgtgca ggcggaattg cacctgggtc 540  
 caggtggagg tggtagctg gggcaaactc tgcggccttc gcggctatcc cggcatgtac 600  
 acccgcgtag cgagctacgt gtcctggatc cgccagtag tcccgcggtt cccagacgc 660

<210> 24  
 <211> 220  
 <212> PRT  
 <213> Homo sapiens

<400> 24  
 Ser Leu Gly Ala Ala Thr Ser Arg Pro Gly Gly Thr Pro Gly Arg Glu  
 1 5 10 15  
 Glu Leu Glu Ala Cys Ala Phe Arg Val Gln Val Gly Gln Leu Arg Leu  
 20 25 30  
 Tyr Glu Asp Asp Gln Arg Thr Lys Val Val Glu Ile Val Arg His Pro  
 35 40 45  
 Gln Tyr Asn Glu Ser Leu Ser Ala Gln Gly Gly Ala Asp Ile Ala Leu  
 50 55 60  
 Leu Lys Leu Glu Ala Pro Val Pro Leu Ser Glu Leu Ile His Pro Val  
 65 70 75 80  
 Ser Leu Pro Ser Ala Ser Arg Asp Val Pro Ser Gly Lys Thr Cys Trp  
 85 90 95



Val Thr Gly Trp Gly Val Ile Gly Arg Gly Glu Leu Leu Pro Trp Pro  
 100 105 110  
 Leu Ser Leu Trp Glu Ala Thr Val Lys Val Arg Ser Asn Val Leu Cys  
 115 120 125  
 Asn Gln Thr Cys Arg Arg Arg Phe Pro Ser Asn His Thr Glu Arg Phe  
 130 135 140  
 Glu Arg Leu Ile Lys Asp Asp Met Leu Cys Ala Gly Asp Gly Asn His  
 145 150 155 160  
 Gly Ser Trp Pro Gly Asp Asn Gly Gly Pro Leu Leu Cys Arg Arg Asn  
 165 170 175  
 Cys Thr Trp Val Gln Val Glu Val Val Ser Trp Gly Lys Leu Cys Gly  
 180 185 190  
 Leu Arg Gly Tyr Pro Gly Met Tyr Thr Arg Val Thr Ser Tyr Val Ser  
 195 200 205  
 Trp Ile Arg Gln Tyr Val Pro Pro Phe Pro Arg Arg  
 210 215 220

<210> 25  
 <211> 843  
 <212> DNA  
 <213> Homo sapiens

<400> 25  
 tgagagataa atgggctccc agagatgcca gggaggaggc cccggcacgg ggcgtgagct 60  
 ggtgggcatc actgggggct gcgacgtctc ggccaggagg caccctggc aggtcagcct 120  
 gaggttctac agcatgaaga agggctctgtg ggagcccatc tgtgggggct ccctcatcca 180  
 cccagagtgg gtgctgaccg ccgcccactg ccttggcagg gaggagttag aggcttgccg 240  
 gtttagagtg caggtggggc agctgaggct ctatgaggac gaccagcgga cgaaggtggg 300  
 tgagatcgtc cgtcaccccc agtacaacga gagcctgtct gcccaggggc gtgcggacat 360  
 cgccctgctg aagctggagg ccccggtgcc gctgtctgag ctcatccacc cggctctcgt 420  
 cccgtctgcc tcccggcctg ggctccagac gcgtcctgga tggcttctctg ccgctgccga 480  
 gacggatggg caggaactac tgccctggcc cctcagcttg tgggaggcga cgggtgaagg 540  
 caggagcaac gtcctctgta accagacctg tcgccgccgc ttctctcca accacactga 600  
 gcggtttgag cggctcatca aggacgacat gctgtgtgcc ggggacggga accacggctc 660  
 ctggccaggc gacaacgggg gcccctcct gtgcaggcgg aattgcacct gggctccagg 720  
 ggaggtgggt agctggggca aactctgcgg ccttcgcggc tatcccggca tgtacacccg 780  
 cgtgacgagc tacgtgtcct ggatccgcca gtacgtcccg ccgttcccca gacgctagct 840  
 ggg 843

<210> 26  
 <211> 275  
 <212> PRT  
 <213> Homo sapiens

<400> 26  
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 20 25 30  
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 35 40 45  
 Pro Ile Cys Gly Gly Ser Leu Ile His Pro Glu Trp Val Leu Thr Ala  
 50 55 60  
 Ala His Cys Leu Gly Arg Glu Glu Leu Glu Ala Cys Ala Phe Arg Val  
 65 70 75 80  
 Gln Val Gly Gln Leu Arg Leu Tyr Glu Asp Asp Gln Arg Thr Lys Val  
 85 90 95  
 Val Glu Ile Val Arg His Pro Gln Tyr Asn Glu Ser Leu Ser Ala Gln  
 100 105 110  
 Gly Gly Ala Asp Ile Ala Leu Leu Lys Leu Glu Ala Pro Val Pro Leu  
 115 120 125  
 Ser Glu Leu Ile His Pro Val Ser Leu Pro Ser Ala Ser Arg Pro Gly  
 130 135 140  
 Leu Gln Thr Arg Pro Gly Trp Leu Pro Ala Ala Ala Glu Thr Asp Gly  
 145 150 155 160  
 Gln Glu Leu Leu Pro Trp Pro Leu Ser Leu Trp Glu Ala Thr Val Lys  
 165 170 175  
 Val Arg Ser Asn Val Leu Cys Asn Gln Thr Cys Arg Arg Arg Phe Pro  
 180 185 190  
 Ser Asn His Thr Glu Arg Phe Glu Arg Leu Ile Lys Asp Asp Met Leu  
 195 200 205  
 Cys Ala Gly Asp Gly Asn His Gly Ser Trp Pro Gly Asp Asn Gly Gly  
 210 215 220  
 Pro Leu Leu Cys Arg Arg Asn Cys Thr Trp Val Gln Val Glu Val Val  
 225 230 235 240  
 Ser Trp Gly Lys Leu Cys Gly Leu Arg Gly Tyr Pro Gly Met Tyr Thr  
 245 250 255  
 Arg Val Thr Ser Tyr Val Ser Trp Ile Arg Gln Tyr Val Pro Pro Phe  
 260 265 270  
 Pro Arg Arg  
 275

<210> 27  
 <211> 94  
 <212> PRT  
 <213> Homo sapiens

<400> 27

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Met Ser Glu Leu Val Arg Ala Arg Ser Gln Ser Ser Glu Arg Gly Asn
  1              5              10              15

Asp Gln Glu Ser Ser Gln Pro Val Gly Ser Val Ile Val Gln Glu Pro
      20              25              30

Thr Glu Glu Lys Arg Gln Glu Glu Glu Pro Pro Thr Asp Asn Gln Gly
      35              40              45

Pro Asp Met Glu Ala Phe Gln Gln Glu Leu Ala Leu Leu Lys Ile Glu
      50              55              60

Asp Glu Pro Gly Asp Gly Pro Asp Val Arg Glu Gly Ile Met Pro Thr
      65              70              75              80

Phe Asp Leu Thr Lys Val Leu Glu Ala Gly Asp Ala Gln Pro
      85              90
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<210> 28

<211> 109

<212> PRT

<213> Homo sapiens

<400> 28

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Met Ser Glu Leu Val Arg Ala Arg Ser Gln Ser Ser Glu Arg Gly Asn
  1              5              10              15

Asp Gln Glu Ser Ser Gln Pro Val Gly Ser Val Ile Val Gln Glu Pro
      20              25              30

Thr Glu Glu Lys Arg Gln Gln Glu Glu Pro Pro Thr Asp Asn Gln Asp
      35              40              45

Ile Glu Pro Gly Gln Glu Arg Glu Gly Thr Pro Pro Ile Glu Glu Arg
      50              55              60

Lys Val Glu Gly Asp Cys Gln Glu Met Ala Leu Leu Lys Ile Glu Asp
      65              70              75              80

Glu Pro Gly Asp Gly Pro Asp Val Arg Glu Gly Ile Met Pro Thr Phe
      85              90              95

Asp Leu Thr Lys Val Leu Glu Ala Gly Asp Ala Gln Pro
      100              105
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<210> 29

<211> 95

<212> DNA

<213> Homo sapiens

<400> 29

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caagagtctt cccagccagt tggatctgtg attgt                                     95
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<210> 30  
<211> 95  
<212> DNA  
<213> Homo sapiens

<400> 30  
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taagagtctt cccagccagt tgtatctgtg attgt 95

<210> 31  
<211> 110  
<212> DNA  
<213> Homo sapiens

<400> 31  
gtccaggagc ccactgagga aaaacgtcaa gaagaggagc caccaactga taatcagggt 60  
attgcaccta gtggggagat cgaaaatgaa ggagcacctg ccgttcaagg 110

<210> 32  
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<212> DNA  
<213> Homo sapiens

<400> 32  
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attgcaccta ctggggagat cgaaaatgaa gcggcacctg cccttcaagg 110

<210> 33  
<211> 119  
<212> DNA  
<213> Homo sapiens

<400> 33  
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ctgatgtcag ggaggggatt atgccactt ttgatctcac taaagtgctg gaagcagg 119

<210> 34  
<211> 119  
<212> DNA  
<213> Homo sapiens

<400> 34  
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ctgatgtcag ggaggggact ctgccactt tcgatccac taaagtgctg gaagcagg 119

<210> 35  
<211> 121  
<212> DNA  
<213> Homo sapiens

<400> 35

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 ttcttaatat ggaaatttga ctgataatat tctcttaata aagttttaag ttttctgcaa 120  
 a 121

<210> 36  
 <211> 122  
 <212> DNA  
 <213> Homo sapiens

<400> 36  
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 ttcttatgct ggaaatttga ctgctaacat tctcttaata aagttttaca gttttctgca 120  
 aa 122

<210> 37  
 <211> 111  
 <212> PRT  
 <213> Homo sapiens

<400> 37  
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 20 25 30  
 Thr Glu Glu Lys Arg Gln Glu Glu Glu Pro Pro Thr Asp Asn Gln Gly  
 35 40 45  
 Ile Ala Pro Ser Gly Glu Ile Glu Asn Glu Gly Ala Pro Ala Val Gln  
 50 55 60  
 Gly Pro Asp Met Glu Ala Phe Gln Gln Glu Leu Ala Leu Leu Lys Ile  
 65 70 75 80  
 Glu Asp Glu Pro Gly Asp Gly Pro Asp Val Arg Glu Gly Ile Met Pro  
 85 90 95  
 Thr Phe Asp Leu Thr Lys Val Leu Glu Ala Gly Asp Ala Gln Pro  
 100 105 110

<210> 38  
 <211> 109  
 <212> PRT  
 <213> Homo sapiens

<400> 38  
 Met Ser Glu Leu Val Arg Ala Arg Ser Gln Ser Ser Glu Arg Gly Asn  
 1 5 10 15  
 Asp Gln Glu Ser Ser Gln Pro Val Gly Ser Val Ile Val Gln Glu Pro  
 20 25 30  
 Thr Glu Glu Lys Arg Gln Gln Glu Glu Pro Pro Thr Asp Asn Gln Asp

35                                      40                                      45  
 Ile Glu Pro Gly Gln Glu Arg Glu Gly Thr Pro Pro Ile Glu Glu Arg  
     50                                      55                                      60  
 Lys Val Glu Gly Asp Cys Gln Glu Met Ala Leu Leu Lys Ile Glu Asp  
     65                                      70                                      75                                      80  
 Glu Pro Gly Asp Gly Pro Asp Val Arg Glu Gly Ile Met Pro Thr Phe  
                                     85                                      90                                      95  
 Asp Leu Thr Lys Val Leu Glu Ala Gly Asp Ala Gln Pro  
                                     100                                      105

<210> 39  
 <211> 46  
 <212> PRT  
 <213> Homo sapiens

<400> 39  
 Asn Gln Gly Ile Ala Pro Ser Gly Glu Ile Glu Asn Glu Gly Ala Pro  
     1                                      5                                      10                                      15  
 Ala Val Gln Gly Pro Asp Met Glu Ala Phe Gln Gln Glu Leu Ala Leu  
                                     20                                      25                                      30  
 Leu Lys Ile Glu Asp Glu Pro Gly Asp Gly Pro Asp Val Arg  
                                     35                                      40                                      45

<210> 40  
 <211> 46  
 <212> PRT  
 <213> Homo sapiens

<400> 40  
 Ser Gln Asp Ser Thr Pro Ala Glu Glu Arg Glu Asp Glu Gly Ala Ser  
     1                                      5                                      10                                      15  
 Ala Ala Gln Gly Gln Glu Pro Glu Ala Asp Ser Gln Glu Leu Val Gln  
                                     20                                      25                                      30  
 Pro Lys Thr Gly Cys Glu Pro Gly Asp Gly Pro Asp Thr Lys  
                                     35                                      40                                      45

<210> 41  
 <211> 436  
 <212> DNA  
 <213> Homo sapiens

<400> 41  
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 aatgtcttca tgatggagag tctaattgtg aaaccaaac gcagaaatgt cctctgtctt 120  
 ttgctatggc gttaagggga tttctatgcc tcttcgacta tgatacaaac aaatctgtcc 180  
 ttagtttgat tcgaaagcat gtgtacttat cattgctctg tgacttaatt tgaaaatatt 240



ttcaaaatta	aaaaagtaca	aatcaccatt	ttgccgtgga	atgttcatat	atataactaa	300
gttcttacac	actttttcca	aataacaata	ttctgtttgc	agtgggaaat	atgagtgagc	360
ttgtaagagc	aagatcccaa	tcctcagaaa	gaggaaatga	ccaagagtct	tcccagccgg	420
ttggatctgt	gattgt					436

<210> 42  
 <211> 434  
 <212> DNA  
 <213> Homo sapiens

<400> 42						
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aatgtgtaa	atgatggaga	gtctaattgt	gaagccaaaa	ctcagaaaag	tcctctgtct	120
tttgctatgg	cgtaagggtg	ttttctgtgc	ctcttcgact	atgatacaaa	caaattctgtc	180
cttagtttga	ttggaaagca	tgcgtactta	tcaatgctct	gtgacttagt	ttgaaaatat	240
tttcaaaatt	aaaaaagtac	aatcaccat	tttgccatgg	aatgttcata	tatatagcta	300
agttcttaca	cactttttcc	aaataacaat	attttgtttt	cagtggagaga	tatgagtgag	360
catgtaacaa	gatcccaatc	ctcagaaaaga	ggaaatgacc	aagagtcttc	ccagccagtt	420
ggacctgtga	ttgt					434

<210> 43  
 <211> 448  
 <212> DNA  
 <213> Homo sapiens

<400> 43						
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caagagtctt	cccagccggt	tggatctgtg	attgtccagg	agcccactga	ggaaaaacgt	120
caagaagagg	aaccaccaac	tgataatcag	ggtattgcac	ctagtgggga	gattgaaaat	180
caagcagtgc	ctgcttttca	agggcctgac	atggaagctt	ttcaacagga	actggctctg	240
cttaagatag	aggatgagcc	tggagatggg	cctgatgtca	gggaggggat	tatgcccact	300
tttgatctca	ctaaagtgct	ggaagcaggt	gatgcgcaac	cataggtttc	aagcaagaca	360
aatgaagact	gaaaccaaga	acgttattct	taatctggaa	atttgactga	taatattctc	420
ttaataaagt	tttaagtttt	ctgcaaag				448

<210> 44  
 <211> 448  
 <212> DNA  
 <213> Homo sapiens

<400> 44						
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caagagtctt	cccagccagt	tggatctgtg	attgtccagg	agcccactga	ggaaaaacgt	120
caagaagagg	aaccaccaac	tgataatcag	ggtattgcac	ctagtgggga	gatcgaaaat	180
gaaggagcac	ctgccgttca	agggcctgac	atggaagctt	ttcaacagga	actggctctg	240
cttaagatag	aggatgagcc	tggagatggg	cctgatgtca	gggaggggat	tatgcccact	300
tttgatctca	ctaaagtgct	ggaagcaggt	gatgcgcaac	cataggtttc	aagcaagaca	360
aatgaagact	gaaaccaaga	acgttattct	taatctggaa	atttgactga	taatattctc	420
ttaataaagt	tttaagtttt	ctgcaaag				448

<210> 45  
 <211> 106  
 <212> PRT

<213> Homo sapiens

<220>  
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 <223> Wherein Xaa is any amino acid as defined in the  
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<220>  
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 Gln Pro Val Gly Ser Val Ile Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 20 25 30  
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Asp Asn Gln Gly Ile Ala Pro Ser Gly  
 35 40 45  
 Glu Ile Glu Asn Gln Ala Val Pro Ala Phe Gln Gly Pro Asp Met Glu  
 50 55 60  
 Ala Phe Gln Gln Glu Leu Ala Leu Leu Lys Ile Glu Asp Glu Pro Gly  
 65 70 75 80  
 Asp Gly Pro Asp Val Arg Glu Gly Ile Met Pro Thr Phe Asp Leu Thr  
 85 90 95  
 Lys Val Leu Glu Ala Gly Asp Ala Gln Pro  
 100 105

<210> 46  
 <211> 99  
 <212> PRT  
 <213> Homo sapiens

<400> 46  
 Arg Val Arg Ser Arg Ser Arg Gly Arg Gly Asp Gly Gln Glu Ala Pro  
 1 5 10 15  
 Asp Val Val Ala Phe Val Ala Pro Gly Glu Ser Gln Gln Glu Glu Pro  
 20 25 30  
 Pro Thr Asp Asn Gln Asp Ile Glu Pro Gly Gln Glu Arg Glu Gly Thr  
 35 40 45  
 Pro Pro Ile Glu Glu Arg Lys Val Glu Gly Asp Cys Gln Glu Met Asp  
 50 55 60  
 Leu Glu Lys Thr Arg Ser Glu Arg Gly Asp Gly Ser Asp Val Lys Glu  
 65 70 75 80  
 Lys Thr Pro Pro Asn Pro Lys His Ala Lys Thr Lys Glu Ala Gly Asp  
 85 90 95  
 Gly Gln Pro

<210> 47  
 <211> 49  
 <212> DNA  
 <213> Homo sapiens

<400> 47  
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<210> 48  
 <211> 49  
 <212> DNA  
 <213> Homo sapiens

<400> 48  
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<210> 49  
 <211> 103  
 <212> PRT  
 <213> Homo sapiens

<400> 49  
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 Leu Gln Pro Pro Glu Leu Ile Gly Ala Met Leu Glu Pro Thr Asp Glu

	20		25		30
Glu	Pro	Lys	Glu	Glu	Lys
	35		40		45
Pro	Pro	Thr	Lys	Ser	Arg
Asn	Pro	Asp	Asp		
Gln	Gly	Ala	Ala	Glu	Ile
	50		55		60
Pro	Asp	Leu	Glu	Ala	Asp
Leu	Gln				
Glu	Leu	Cys	Gln	Thr	Lys
	65		70		75
Thr	Gly	Asp	Gly	Cys	Glu
Gly	Gly	Thr	Asp		
Val	Lys	Gly	Lys	Ile	Leu
	85		90		95
Pro	Lys	Ala	Glu	His	Phe
Lys	Met	Pro	Glu		
Ala	Gly	Glu	Gly	Lys	Ser
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<210> 50  
 <211> 109  
 <212> PRT  
 <213> Homo sapiens

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Trp	Arg
Gly	Arg
Ser	Thr
Tyr	Arg
10	15
Pro	Arg
Pro	Arg
Arg	Tyr
Val	Glu
20	25
Pro	Met
Arg	Pro
Glu	Gln
30	
Phe	Ser
Asp	Glu
35	40
Val	Glu
Pro	Ala
Thr	Pro
Glu	Glu
45	
Gly	Glu
Pro	Ala
Thr	Gln
Arg	Gln
50	55
Asp	Glu
Gly	Ala
Ser	Ala
60	
Gly	Gln
Gly	Pro
Lys	
Pro	Glu
65	70
Ala	Ser
Glu	Gln
75	80
Thr	Gly
Cys	Glu
85	90
Asp	Pro
Pro	Asn
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Pro	Glu
Glu	Val
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Lys	Gln
Ser	Gln

<210> 51  
 <211> 388  
 <212> DNA  
 <213> Homo sapiens

	<400> 51											
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cctggcaa	aaa	tctgagac	at	ctgagtag	ta	tgagcaat	tc	atttcct	gta	gaatgtct	ac	180
gagaaaac	at	agcttttt	gag	ttgcccc	aag	agttttct	gca	atacacc	caa	cctatga	aga	240
gggacatc	aa	gaaggcct	tc	tatgaaat	gt	ccctacag	gc	cttcaac	atc	ttcagcca	ac	300

acaccttcaa atattggaaa gagagacacc tcaaacaaat ccaaatagga cttgatcagc 360  
aagcagagta cctgaaccaa tgcttgga 388

<210> 52  
<211> 388  
<212> DNA  
<213> Homo sapiens

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tcattgctgg caccctatcc ctggactgta acttactgaa cgttcacctg agaagagtca 120  
cctggcaaaa tctgagacat ctgagtagta tgagcaattc atttcctgta gaatgtctac 180  
gagaaaacat agcttttgag ttgccccaa agtttctgca atacacccaa cctatgaaga 240  
gggacatcaa gaaggccttc tatgaaatgt ccctacaggc cttcaacatc ttcagccaac 300  
acaccttcaa atattggaaa gagagacacc tcaaacaaat ccaaatagga cttgatcagc 360  
aagcagagta cctgaaccaa tgcttgga 388

<210> 53  
<211> 181  
<212> DNA  
<213> Homo sapiens

<400> 53  
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atagacaatt tcctgaaaga aaagaaatac agtgactgtg cctgggagat tgtccgagtg 120  
gaaatcagaa gatgtttgta ttacttttac aaatttacag ctctattcag gaggaataa 180  
g 181

<210> 54  
<211> 181  
<212> DNA  
<213> Homo sapiens

<400> 54  
ccctcagaag ccagggtccc ccagctgagc agcctggaac tgaggagata tttccacagg 60  
atagacaatt tcctgaaaga aaagaaatac agtgactgtg cctgggagat tgtccgagtg 120  
gaaatcagaa gatgtttgta ttacttttac aaatttacag ctctattcag gaggaataa 180  
g 181

<210> 55  
<211> 207  
<212> PRT  
<213> Homo sapiens

<400> 55  
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Leu Met Gly Ile Phe Ile Ala Gly Thr Leu Ser Leu Asp Cys Asn Leu  
20 25 30  
Leu Asn Val His Leu Arg Arg Val Thr Trp Gln Asn Leu Arg His Leu  
35 40 45

Ser	Ser	Met	Ser	Asn	Ser	Phe	Pro	Val	Glu	Cys	Leu	Arg	Glu	Asn	Ile
50						55					60				
Ala	Phe	Glu	Leu	Pro	Gln	Glu	Phe	Leu	Gln	Tyr	Thr	Gln	Pro	Met	Lys
65					70					75					80
Arg	Asp	Ile	Lys	Lys	Ala	Phe	Tyr	Glu	Met	Ser	Leu	Gln	Ala	Phe	Asn
				85					90					95	
Ile	Phe	Ser	Gln	His	Thr	Phe	Lys	Tyr	Trp	Lys	Glu	Arg	His	Leu	Lys
			100					105					110		
Gln	Ile	Gln	Ile	Gly	Leu	Asp	Gln	Gln	Ala	Glu	Tyr	Leu	Asn	Gln	Cys
		115					120					125			
Leu	Glu	Glu	Asp	Lys	Asn	Glu	Asn	Glu	Asp	Met	Lys	Glu	Met	Lys	Glu
	130					135					140				
Asn	Glu	Met	Lys	Pro	Ser	Glu	Ala	Arg	Val	Pro	Gln	Leu	Ser	Ser	Leu
145					150					155					160
Glu	Leu	Arg	Arg	Tyr	Phe	His	Arg	Ile	Asp	Asn	Phe	Leu	Lys	Glu	Lys
				165					170					175	
Lys	Tyr	Ser	Asp	Cys	Ala	Trp	Glu	Ile	Val	Arg	Val	Glu	Ile	Arg	Arg
			180					185					190		
Cys	Leu	Tyr	Tyr	Phe	Tyr	Lys	Phe	Thr	Ala	Leu	Phe	Arg	Arg	Lys	
	195						200					205			

<210> 56  
 <211> 207  
 <212> PRT  
 <213> Homo sapiens

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Leu	Met	Gly	Ile	Phe	Ile	Ala	Gly	Thr	Leu	Ser	Leu	Asp	Cys	Asn	Leu
			20					25					30		
Leu	Asn	Val	His	Leu	Arg	Arg	Val	Thr	Trp	Gln	Asn	Leu	Arg	His	Leu
	35						40					45			
Ser	Ser	Met	Ser	Asn	Ser	Phe	Pro	Val	Glu	Cys	Leu	Arg	Glu	Asn	Ile
	50					55					60				
Ala	Phe	Glu	Leu	Pro	Gln	Glu	Phe	Leu	Gln	Tyr	Thr	Gln	Pro	Met	Lys
65					70					75					80
Arg	Asp	Ile	Lys	Lys	Ala	Phe	Tyr	Glu	Met	Ser	Leu	Gln	Ala	Phe	Asn
				85					90					95	
Ile	Phe	Ser	Gln	His	Thr	Phe	Lys	Tyr	Trp	Lys	Glu	Arg	His	Leu	Lys



			100						105						110			
Gln	Ile	Gln	Ile	Gly	Leu	Asp	Gln	Gln	Ala	Glu	Tyr	Leu	Asn	Gln	Cys			
		115					120					125						
Leu	Glu	Glu	Asp	Glu	Asn	Glu	Asn	Glu	Asp	Met	Lys	Glu	Met	Lys	Glu			
	130					135					140							
Asn	Glu	Met	Lys	Pro	Ser	Glu	Ala	Arg	Val	Pro	Gln	Leu	Ser	Ser	Leu			
145					150					155					160			
Glu	Leu	Arg	Arg	Tyr	Phe	His	Arg	Ile	Asp	Asn	Phe	Leu	Lys	Glu	Lys			
				165					170					175				
Lys	Tyr	Ser	Asp	Cys	Ala	Trp	Glu	Ile	Val	Arg	Val	Glu	Ile	Arg	Arg			
			180					185					190					
Cys	Leu	Tyr	Tyr	Phe	Tyr	Lys	Phe	Thr	Ala	Leu	Phe	Arg	Arg	Lys				
	195						200					205						

<210> 57  
 <211> 181  
 <212> PRT  
 <213> Homo sapiens

<400> 57

Leu	Glu	Ile	Leu	Met	Gly	Ile	Phe	Ile	Ala	Gly	Thr	Leu	Ser	Leu	Asp			
1				5					10					15				
Cys	Asn	Leu	Leu	Asn	Val	His	Leu	Arg	Arg	Val	Thr	Trp	Gln	Asn	Leu			
			20					25					30					
Arg	His	Leu	Ser	Ser	Met	Ser	Asn	Ser	Phe	Pro	Val	Glu	Cys	Leu	Arg			
		35					40					45						
Glu	Asn	Ile	Ala	Phe	Glu	Leu	Pro	Gln	Glu	Phe	Leu	Gln	Tyr	Thr	Gln			
	50					55					60							
Pro	Met	Lys	Arg	Asp	Ile	Lys	Lys	Ala	Phe	Tyr	Glu	Met	Ser	Leu	Gln			
65					70					75					80			
Ala	Phe	Asn	Ile	Phe	Ser	Gln	His	Thr	Phe	Lys	Tyr	Trp	Lys	Glu	Arg			
				85					90					95				
His	Leu	Lys	Gln	Ile	Gln	Ile	Gly	Leu	Asp	Gln	Gln	Ala	Glu	Tyr	Leu			
			100				105						110					
Asn	Gln	Cys	Leu	Glu	Glu	Asp	Lys	Asn	Glu	Asn	Glu	Asp	Met	Lys	Glu			
		115					120					125						
Met	Lys	Glu	Asn	Glu	Met	Lys	Pro	Ser	Glu	Ala	Arg	Val	Pro	Gln	Leu			
	130					135					140							
Ser	Ser	Leu	Glu	Leu	Arg	Arg	Tyr	Phe	His	Arg	Ile	Asp	Asn	Phe	Leu			
145					150					155					160			

Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg Val Glu  
165 170 175

Ile Arg Arg Cys Leu  
180

<210> 58  
<211> 171  
<212> PRT  
<213> Homo sapiens

<400> 58  
Leu Ser Leu Leu Met Ala Leu Val Leu Val Ser Tyr Gly Pro Gly Arg  
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Ser Leu Gly Cys Tyr Leu Ser Glu Asp His Met Leu Gly Ala Arg Glu  
20 25 30

Asn Leu Arg Leu Leu Ala Arg Met Asn Arg Leu Ser Pro His Pro Cys  
35 40 45

Leu Gln Asp Arg Lys Asp Phe Gly Leu Pro Gln Glu Met Val Glu Gly  
50 55 60

Asn Gln Leu Gln Lys Asp Gln Ala Ile Ser Val Leu His Glu Met Leu  
65 70 75 80

Gln Gln Cys Phe Asn Leu Phe Tyr Thr Glu His Ser Ser Ala Ala Trp  
85 90 95

Asn Thr Thr Leu Leu Glu Gln Leu Cys Thr Gly Leu Gln Gln Gln Leu  
100 105 110

Glu Asp Leu Asp Ala Cys Leu Gly Pro Val Met Gly Glu Lys Asp Ser  
115 120 125

Asp Met Gly Arg Met Gly Pro Ile Leu Thr Val Lys Lys Tyr Phe Gln  
130 135 140

Gly Ile His Val Tyr Leu Lys Glu Lys Glu Tyr Ser Asp Cys Ala Trp  
145 150 155 160

Glu Ile Ile Arg Val Glu Met Met Arg Ala Leu  
165 170

<210> 59  
<211> 390  
<212> DNA  
<213> Homo sapiens

<400> 59  
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ttcattgctg gcaccctatc cctggactgt aacttactga acgttcacct gagaagagtc 120  
acctggcaaa atctgagaca tctgagtagt atgagcaatt catttcctgt agaatgtcta 180  
cgagaaaaca tagcttttga gttgcccacaa gagtttctgc aatacaccca acctatgaag 240

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agggacatca agaaggcctt ctatgaaatg tccctacagg ccttcaacat cttcagccaa 300
cacaccttca aatattggaa agagagacac ctcaaacaaa tccaaatagg acttgatcag 360
caagcagagt acctgaacca atgcttggag 390

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<210> 60
<211> 390
<212> DNA
<213> Homo sapiens

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<400> 60
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ttcattgctg gcaccctatc cctggactgt aacttactga acgttcacct gagaagagtc 120
acctggcaaa atctgagaca tctgagtagt atgagcaatt catttcctgt agaatgtcta 180
cgagaaaaca tagcttttga gttgccccaa gagtttctgc aatacaccca acctatgaag 240
agggacatca agaaggcctt ctatgaaatg tccctacagg ccttcaacat cttcagccaa 300
cacaccttca aatattggaa agagagacac ctcaaacaaa tccaaatagg acttgatcag 360
caagcagagt acctgaacca atgcttggag 390

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<210> 61
<211> 181
<212> DNA
<213> Homo sapiens

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<400> 61
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gaaatcagaa gatgttttga ttacttttac aaatttacag ctctattcag gaggaaataa 180
g 181

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<210> 62
<211> 181
<212> DNA
<213> Homo sapiens

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<400> 62
ccctcagaag ccagggtccc ccagctgagc agcctggaac tgaggagata tttccacagg 60
atagacaatt tcctgaaaga aaagaaatac agtgactgtg cctgggagat tgtccgagtg 120
gaaatcagaa gatgttttga ttacttttac aaatttacag ctctattcag gaggaaataa 180
g 181

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<210> 63
<211> 207
<212> PRT
<213> Homo sapiens

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<400> 63
Met Ser Thr Lys Pro Asp Met Ile Gln Lys Cys Leu Trp Leu Glu Ile
  1             5             10             15

Leu Met Gly Ile Phe Ile Ala Gly Thr Leu Ser Leu Asp Cys Asn Leu
      20             25             30

Leu Asn Val His Leu Arg Arg Val Thr Trp Gln Asn Leu Arg His Leu

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35	40	45
Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys Leu Arg Glu Asn Ile		
50	55	60
Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr Thr Gln Pro Met Lys		
65	70	75
Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser Leu Gln Ala Phe Asn		
	85	90
Ile Phe Ser Gln His Thr Phe Lys Tyr Trp Lys Glu Arg His Leu Lys		
	100	105
Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu Tyr Leu Asn Gln Cys		
	115	120
Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met Lys Glu Met Lys Glu		
	130	135
Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro Gln Leu Ser Ser Leu		
145	150	155
Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn Phe Leu Lys Glu Lys		
	165	170
Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg Val Glu Ile Arg Arg		
	180	185
Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu Phe Arg Arg Lys		
	195	200
		205

<210> 64  
 <211> 207  
 <212> PRT  
 <213> Homo sapiens

<400> 64
Met Ser Thr Lys Pro Asp Met Ile Gln Lys Cys Leu Trp Leu Glu Ile
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20 25 30
Leu Asn Val His Leu Arg Arg Val Thr Trp Gln Asn Leu Arg His Leu
35 40 45
Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys Leu Arg Glu Asn Ile
50 55 60
Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr Thr Gln Pro Met Lys
65 70 75 80
Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser Leu Gln Ala Phe Asn
85 90 95

Ile	Phe	Ser	Gln	His	Thr	Phe	Lys	Tyr	Trp	Lys	Glu	Arg	His	Leu	Lys
			100					105					110		
Gln	Ile	Gln	Ile	Gly	Leu	Asp	Gln	Gln	Ala	Glu	Tyr	Leu	Asn	Gln	Cys
		115					120					125			
Leu	Glu	Glu	Asp	Glu	Asn	Glu	Asn	Glu	Asp	Met	Lys	Glu	Met	Lys	Glu
	130					135					140				
Asn	Glu	Met	Lys	Pro	Ser	Glu	Ala	Arg	Val	Pro	Gln	Leu	Ser	Ser	Leu
145					150					155					160
Glu	Leu	Arg	Arg	Tyr	Phe	His	Arg	Ile	Asp	Asn	Phe	Leu	Lys	Glu	Lys
				165					170					175	
Lys	Tyr	Ser	Asp	Cys	Ala	Trp	Glu	Ile	Val	Arg	Val	Glu	Ile	Arg	Arg
			180					185					190		
Cys	Leu	Tyr	Tyr	Phe	Tyr	Lys	Phe	Thr	Ala	Leu	Phe	Arg	Arg	Lys	
	195						200					205			

<210> 65  
 <211> 228  
 <212> DNA  
 <213> Homo sapiens

<400> 65  
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 agagtacag tgaggacccc agcggcaagc cccgcctgaa ggtggagacc aaggtcagcg 120  
 tggagctgca ccgcgaggag cagggcagtc accgtggaga gtaccccccg gaccaggaga 180  
 gcgggggagc agccaggctt gctagcagcc agccccaga gcagagga 228

<210> 66  
 <211> 228  
 <212> DNA  
 <213> Homo sapiens

<400> 66  
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 agagtacag tgaggacccc agcggcaagc cccgcctgaa ggtggagacc aaggtcagcg 120  
 tggagctgca ccgcgaggag cagggcagtc accgtggaga gtaccccccg gaccaggaga 180  
 gcgggggagc agccaggctt gctagcagcc agccccaga gcagagga 228

<210> 67  
 <211> 3492  
 <212> DNA  
 <213> Homo sapiens

<400> 67  
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<211> 3493  
 <212> DNA  
 <213> Homo sapiens

<400> 68

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ctgcccgact tccagatcct cttcaacaac tatgtcacca acaagtccaa cagtttcccc 3300  
accggcgtga tcggctgcat cccggcccat gaccccgacg tgtcagacag cctcaactac 3360  
accttcgtgc agggcaacga gctgcgcctg ttgctgctgg accccgccac gggcgaactg 3420  
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tctggtgagt ggc 3493

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<212> PRT  
<213> Homo sapiens

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Pro Arg Val Pro Gly Gly Thr Arg Ala Phe Ala Leu Arg Pro Gly Cys  
35 40 45  
Thr Tyr Ala Val Gly Ala Ala Cys Thr Pro Arg Ala Pro Arg Glu Leu  
50 55 60  
Leu Asp Val Gly Arg Asp Gly Arg Leu Ala Gly Arg Arg Arg Val Ser  
65 70 75 80  
Gly Ala Gly Arg Pro Leu Pro Leu Gln Val Arg Leu Val Ala Arg Ser  
85 90 95  
Ala Pro Thr Ala Leu Ser Arg Arg Leu Arg Ala Arg Thr His Leu Pro  
100 105 110  
Gly Cys Gly Ala Arg Ala Arg Leu Cys Gly Thr Gly Ala Arg Leu Cys  
115 120 125  
Gly Ala Leu Cys Phe Pro Val Pro Gly Gly Cys Ala Ala Ala Gln His  
130 135 140  
Ser Ala Leu Ala Ala Pro Thr Thr Leu Pro Ala Cys Arg Cys Pro Pro  
145 150 155 160  
Arg Pro Arg Pro Arg Cys Pro Gly Arg Pro Ile Cys Leu Pro Pro Gly  
165 170 175  
Gly Ser Val Arg Leu Arg Leu Leu Cys Ala Leu Arg Arg Ala Ala Gly  
180 185 190  
Ala Val Arg Val Gly Leu Ala Leu Glu Ala Ala Thr Ala Gly Thr Pro  
195 200 205  
Ser Ala Ser Pro Ser Pro Ser Pro Pro Leu Pro Pro Asn Leu Pro Glu  
210 215 220

Ala	Arg	Ala	Gly	Pro	Ala	Arg	Arg	Ala	Arg	Arg	Gly	Thr	Ser	Gly	Arg	225	230	235	240
Gly	Ser	Leu	Lys	Phe	Pro	Met	Pro	Asn	Tyr	Gln	Val	Ala	Leu	Phe	Glu	245	250	255	
Asn	Glu	Pro	Ala	Gly	Thr	Leu	Ile	Leu	Gln	Leu	His	Ala	His	Tyr	Thr	260	265	270	
Ile	Glu	Gly	Glu	Glu	Glu	Arg	Val	Ser	Tyr	Tyr	Met	Glu	Gly	Leu	Phe	275	280	285	
Asp	Glu	Arg	Ser	Arg	Gly	Tyr	Phe	Arg	Ile	Asp	Ser	Ala	Thr	Gly	Ala	290	295	300	
Val	Ser	Thr	Asp	Ser	Val	Leu	Asp	Arg	Glu	Thr	Lys	Glu	Thr	His	Val	305	310	315	320
Leu	Arg	Val	Lys	Ala	Val	Asp	Tyr	Ser	Thr	Pro	Pro	Arg	Ser	Ala	Thr	325	330	335	
Thr	Tyr	Ile	Thr	Val	Leu	Val	Lys	Asp	Thr	Asn	Asp	His	Ser	Pro	Val	340	345	350	
Phe	Glu	Gln	Ser	Glu	Tyr	Arg	Glu	Arg	Val	Arg	Glu	Asn	Leu	Glu	Val	355	360	365	
Gly	Tyr	Glu	Val	Leu	Thr	Ile	Arg	Ala	Ser	Asp	Arg	Asp	Ser	Pro	Ile	370	375	380	
Asn	Ala	Asn	Leu	Arg	Tyr	Arg	Val	Leu	Gly	Gly	Ala	Trp	Asp	Val	Phe	385	390	395	400
Gln	Leu	Asn	Glu	Ser	Ser	Gly	Val	Val	Ser	Thr	Arg	Ala	Val	Leu	Asp	405	410	415	
Arg	Glu	Glu	Ala	Ala	Glu	Tyr	Gln	Leu	Leu	Val	Glu	Ala	Asn	Asp	Gln	420	425	430	
Gly	Arg	Asn	Pro	Gly	Pro	Leu	Ser	Ala	Thr	Ala	Thr	Val	Tyr	Ile	Glu	435	440	445	
Val	Glu	Asp	Glu	Asn	Asp	Asn	Tyr	Pro	Gln	Phe	Ser	Glu	Gln	Asn	Tyr	450	455	460	
Val	Val	Gln	Val	Pro	Glu	Asp	Val	Gly	Leu	Asn	Thr	Ala	Val	Leu	Arg	465	470	475	480
Val	Gln	Ala	Thr	Asp	Arg	Asp	Gln	Gly	Gln	Asn	Ala	Ala	Ile	His	Tyr	485	490	495	
Ser	Ile	Leu	Ser	Gly	Asn	Val	Ala	Gly	Gln	Phe	Tyr	Leu	His	Ser	Leu	500	505	510	
Ser	Gly	Ile	Leu	Asp	Val	Ile	Asn	Pro	Leu	Asp	Phe	Glu	Asp	Val	Gln	515	520	525	

Lys Tyr Ser Leu Ser Ile Lys Ala Gln Asp Gly Gly Arg Pro Pro Leu  
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 Ile Asn Ser Ser Gly Val Val Ser Val Gln Val Leu Asp Val Asn Asp  
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 Asn Glu Pro Ile Phe Val Ser Ser Pro Phe Gln Ala Thr Val Leu Glu  
 565 570 575  
 Asn Val Pro Leu Gly Tyr Pro Val Val His Ile Gln Ala Val Asp Ala  
 580 585 590  
 Asp Ser Gly Glu Asn Ala Arg Leu His Tyr Arg Leu Val Asp Thr Ala  
 595 600 605  
 Ser Thr Phe Leu Gly Gly Gly Ser Ala Gly Pro Lys Asn Pro Ala Pro  
 610 615 620  
 Thr Pro Asp Phe Pro Phe Gln Ile His Asn Ser Ser Gly Trp Ile Thr  
 625 630 635 640  
 Val Cys Ala Glu Leu Asp Arg Glu Glu Val Glu His Tyr Ser Phe Gly  
 645 650 655  
 Val Glu Ala Val Asp His Gly Ser Pro Pro Met Ser Ser Ser Thr Ser  
 660 665 670  
 Val Ser Ile Thr Val Leu Asp Val Asn Asp Asn Asp Pro Val Phe Thr  
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 Gln Pro Thr Tyr Glu Leu Arg Leu Asn Glu Asp Ala Ala Val Gly Ser  
 690 695 700  
 Ser Val Leu Thr Leu Gln Ala Arg Asp Arg Asp Ala Asn Ser Val Ile  
 705 710 715 720  
 Thr Tyr Gln Leu Thr Gly Gly Asn Thr Arg Asn Arg Phe Ala Leu Ser  
 725 730 735  
 Ser Gln Arg Gly Gly Gly Leu Ile Thr Leu Ala Leu Pro Leu Asp Tyr  
 740 745 750  
 Lys Gln Glu Gln Gln Tyr Val Leu Ala Val Thr Ala Ser Asp Gly Thr  
 755 760 765  
 Arg Ser His Thr Ala His Val Leu Ile Asn Val Thr Asp Ala Asn Thr  
 770 775 780  
 His Arg Pro Val Phe Gln Ser Ser His Tyr Thr Val Ser Val Ser Glu  
 785 790 795 800  
 Asp Arg Pro Val Gly Thr Ser Ile Ala Thr Leu Ser Ala Asn Asp Glu  
 805 810 815  
 Asp Thr Gly Glu Asn Ala Arg Ile Thr Tyr Val Ile Gln Asp Pro Val  
 820 825 830



Ser Leu Asn Tyr Thr Phe Val Gln Gly Asn Glu Leu Arg Leu Leu Leu  
 1140 1145 1150  
 Leu Asp Pro Ala Thr Gly Glu Leu Gln Leu Ser Arg Asp Leu Asp Asn  
 1155 1160 1165  
 Asn Arg Pro Leu Glu Ala Leu Met Glu Val Ser Val Ser Ala Asp Gly  
 1170 1175 1180  
 Ile His Ser Val Thr Ala Phe Cys Thr Leu Arg Val Thr Ile Ile Thr  
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 Asp Asp Met Leu Thr Asn Ser Ile Thr Val Arg Leu Glu Asn Met Ser  
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 Gln Glu Lys Phe Leu Ser Pro Leu Leu Ala Leu Phe Val Glu Gly Val  
 1220 1225 1230  
 Ala Ala Val Leu Ser Thr Thr Lys Asp Asp Val Phe Val Phe Asn Val  
 1235 1240 1245  
 Gln Asn Asp Thr Asp Val Ser Ser Asn Ile Leu Asn Val Thr Phe Ser  
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 Ala Leu Leu Pro Gly Gly Val Arg Gly Gln Phe Phe Pro Ser Glu Asp  
 1265 1270 1275 1280  
 Leu Gln Glu Gln Ile Tyr Leu Asn Arg Thr Leu Leu Thr Thr Ile Ser  
 1285 1290 1295  
 Thr Gln Arg Val Leu Pro Phe Asp Asp Asn Ile Cys Leu Arg Glu Pro  
 1300 1305 1310  
 Cys Glu Asn Tyr Met Lys Cys Val Ser Val Leu Arg Phe Asp Ser Ser  
 1315 1320 1325  
 Ala Pro Phe Leu Ser Ser Thr Thr Val Leu Phe Arg Pro Ile His Pro  
 1330 1335 1340  
 Ile Asn Gly Leu Arg Cys Arg Cys Pro Pro Gly Phe Thr Gly Asp Tyr  
 1345 1350 1355 1360  
 Cys Glu Thr Glu Ile Asp Leu Cys Tyr Ser Asp Pro Cys Gly Ala Asn  
 1365 1370 1375  
 Gly Arg Cys Arg Ser Arg Glu Gly Gly Tyr Thr Cys Glu Cys Phe Glu  
 1380 1385 1390  
 Asp Phe Thr Gly Glu His Cys Glu Val Asp Ala Arg Ser Gly Arg Cys  
 1395 1400 1405  
 Ala Asn Gly Val Cys Lys Asn Gly Gly Thr Cys Val Asn Leu Leu Ile  
 1410 1415 1420  
 Gly Gly Phe His Cys Val Cys Pro Pro Gly Glu Tyr Glu Arg Pro Tyr  
 1425 1430 1435 1440

Cys Glu Val Thr Thr Arg Ser Phe Pro Pro Gln Ser Phe Val Thr Phe  
 1445 1450 1455  
 Arg Gly Leu Arg Gln Arg Phe His Phe Thr Ile Ser Leu Thr Phe Ala  
 1460 1465 1470  
 Thr Gln Glu Arg Asn Gly Leu Leu Leu Tyr Asn Gly Arg Phe Asn Glu  
 1475 1480 1485  
 Lys His Asp Phe Ile Ala Leu Glu Ile Val Asp Glu Gln Val Gln Leu  
 1490 1495 1500  
 Thr Phe Ser Ala Gly Ala Gly Glu Thr Thr Thr Thr Val Ala Pro Lys  
 1505 1510 1515 1520  
 Val Pro Ser Gly Val Ser Asp Gly Arg Trp His Ser Val Gln Val Gln  
 1525 1530 1535  
 Tyr Tyr Asn Lys Val Arg Trp Ala Pro Pro Leu Pro Pro Gly Pro Gln  
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 Pro Asn Ile Gly His Leu Gly Leu Pro His Gly Pro Ser Gly Glu Lys  
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 Met Ala Val Val Thr Val Asp Asp Cys Asp Thr Thr Met Ala Val Arg  
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 Phe Gly Lys Asp Ile Gly Asn Tyr Ser Cys Ala Ala Gln Gly Thr Gln  
 1585 1590 1595 1600  
 Thr Gly Ser Lys Lys Ser Leu Asp Leu Thr Gly Pro Leu Leu Leu Gly  
 1605 1610 1615  
 Gly Val Pro Asn Leu Pro Glu Asp Phe Pro Val His Asn Arg Gln Phe  
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 Val Gly Cys Met Arg Asn Leu Ser Val Asp Gly Lys Asn Val Asp Met  
 1635 1640 1645  
 Ala Gly Phe Ile Ala Asn Asn Gly Thr Arg Glu Gly Cys Ala Ala Arg  
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 Arg Asn Phe Cys Asp Gly Arg Arg Cys Gln Asn Gly Gly Thr Cys Val  
 1665 1670 1675 1680  
 Asn Arg Trp Asn Met Tyr Leu Cys Glu Cys Pro Leu Arg Phe Gly Gly  
 1685 1690 1695  
 Lys Asn Cys Glu Gln Ala Met Pro His Pro Gln Leu Phe Ser Gly Glu  
 1700 1705 1710  
 Ser Val Val Ser Trp Ser Asp Leu Asn Ile Ile Ile Ser Val Pro Trp  
 1715 1720 1725  
 Tyr Leu Gly Leu Met Phe Arg Thr Arg Lys Glu Asp Ser Val Leu Met  
 1730 1735 1740

Glu Ala Thr Ser Gly Gly Pro Thr Ser Phe Arg Leu Gln Ile Leu Asn			
1745	1750	1755	1760
Asn Tyr Leu Gln Phe Glu Val Ser His Gly Pro Ser Asp Val Glu Ser			
	1765	1770	1775
Val Met Leu Ser Gly Leu Arg Val Thr Asp Gly Glu Trp His His Leu			
	1780	1785	1790
Leu Ile Glu Leu Lys Asn Val Lys Glu Asp Ser Glu Met Lys His Leu			
	1795	1800	1805
Val Thr Met Thr Leu Asp Tyr Gly Met Asp Gln Asn Lys Ala Asp Ile			
	1810	1815	1820
Gly Gly Met Leu Pro Gly Leu Thr Val Arg Ser Val Val Val Gly Gly			
1825	1830	1835	1840
Ala Ser Glu Asp Lys Val Ser Val Arg Arg Gly Phe Arg Gly Cys Met			
	1845	1850	1855
Gln Gly Val Arg Met Gly Gly Thr Pro Thr Asn Val Ala Thr Leu Asn			
	1860	1865	1870
Met Asn Asn Ala Leu Lys Val Arg Val Lys Asp Gly Cys Asp Val Asp			
	1875	1880	1885
Asp Pro Cys Thr Ser Ser Pro Cys Pro Pro Asn Ser Arg Cys His Asp			
	1890	1895	1900
Ala Trp Glu Asp Tyr Ser Cys Val Cys Asp Lys Gly Tyr Leu Gly Ile			
1905	1910	1915	1920
Asn Cys Val Asp Ala Cys His Leu Asn Pro Cys Glu Asn Met Gly Ala			
	1925	1930	1935
Cys Val Arg Ser Pro Gly Ser Pro Gln Gly Tyr Val Cys Glu Cys Gly			
	1940	1945	1950
Pro Ser His Tyr Gly Pro Tyr Cys Glu Asn Lys Leu Asp Leu Pro Cys			
	1955	1960	1965
Pro Arg Gly Trp Trp Gly Asn Pro Val Cys Gly Pro Cys His Cys Ala			
	1970	1975	1980
Val Ser Lys Gly Phe Asp Pro Asp Cys Asn Lys Thr Asn Gly Gln Cys			
1985	1990	1995	2000
Gln Cys Lys Glu Asn Tyr Tyr Lys Leu Leu Ala Gln Asp Thr Cys Leu			
	2005	2010	2015
Pro Cys Asp Cys Phe Pro His Gly Ser His Ser Arg Thr Cys Asp Met			
	2020	2025	2030
Ala Thr Gly Gln Cys Ala Cys Lys Pro Gly Val Ile Gly Arg Gln Cys			
	2035	2040	2045



Asn Arg Cys Asp Asn Pro Phe Ala Glu Val Thr Thr Leu Gly Cys Glu  
 2050 2055 2060  
 Val Ile Tyr Asn Gly Cys Pro Lys Ala Phe Glu Ala Gly Ile Trp Trp  
 2065 2070 2075 2080  
 Pro Gln Thr Lys Phe Gly Gln Pro Ala Ala Val Pro Cys Pro Lys Gly  
 2085 2090 2095  
 Ser Val Gly Asn Ala Val Arg His Cys Ser Gly Glu Lys Gly Trp Leu  
 2100 2105 2110  
 Pro Pro Glu Leu Phe Asn Cys Thr Thr Ile Ser Phe Val Asp Leu Arg  
 2115 2120 2125  
 Ala Met Asn Glu Lys Leu Ser Arg Asn Glu Thr Gln Val Asp Gly Ala  
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 Arg Ala Leu Gln Leu Val Arg Ala Leu Arg Ser Ala Thr Gln His Thr  
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 Gly Thr Leu Phe Gly Asn Asp Val Arg Thr Ala Tyr Gln Leu Leu Gly  
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 His Val Leu Gln His Glu Ser Trp Gln Gln Gly Phe Asp Leu Ala Ala  
 2180 2185 2190  
 Thr Gln Asp Ala Asp Phe His Glu Asp Val Ile His Ser Gly Ser Ala  
 2195 2200 2205  
 Leu Leu Ala Pro Ala Thr Arg Ala Ala Trp Glu Gln Ile Gln Arg Ser  
 2210 2215 2220  
 Glu Gly Gly Thr Ala Gln Leu Leu Arg Arg Leu Glu Gly Tyr Phe Ser  
 2225 2230 2235 2240  
 Asn Val Ala Arg Asn Val Arg Arg Thr Tyr Leu Arg Pro Phe Val Ile  
 2245 2250 2255  
 Val Thr Ala Asn Met Val Leu Ala Val Asp Ile Phe Asp Lys Phe Asn  
 2260 2265 2270  
 Phe Thr Gly Ala Arg Val Pro Arg Phe Asp Thr Ile His Glu Glu Phe  
 2275 2280 2285  
 Pro Arg Glu Leu Glu Ser Ser Val Ser Phe Pro Ala Asp Phe Phe Arg  
 2290 2295 2300  
 Pro Pro Glu Glu Lys Glu Gly Pro Leu Leu Arg Pro Ala Gly Arg Arg  
 2305 2310 2315 2320  
 Thr Thr Pro Gln Thr Thr Arg Pro Gly Pro Gly Thr Glu Arg Glu Ala  
 2325 2330 2335  
 Pro Ile Ser Arg Arg Arg Arg His Pro Asp Asp Ala Gly Gln Phe Ala  
 2340 2345 2350

Val Ala Leu Val Ile Ile Tyr Arg Thr Leu Gly Gln Leu Leu Pro Glu  
2355 2360 2365  
Arg Tyr Asp Pro Asp Arg Arg Ser Leu Arg Leu Pro His Arg Pro Ile  
2370 2375 2380  
Ile Asn Thr Pro Met Val Ser Thr Leu Val Tyr Ser Glu Gly Ala Pro  
2385 2390 2395 2400  
Leu Pro Arg Pro Leu Glu Arg Pro Val Leu Val Glu Phe Ala Leu Leu  
2405 2410 2415  
Glu Val Glu Glu Arg Thr Lys Pro Val Cys Val Phe Trp Asn His Ser  
2420 2425 2430  
Leu Ala Val Gly Gly Thr Gly Gly Trp Ser Ala Arg Gly Cys Glu Leu  
2435 2440 2445  
Leu Ser Arg Asn Arg Thr His Val Ala Cys Gln Cys Ser His Thr Ala  
2450 2455 2460  
Ser Phe Ala Val Leu Met Asp Ile Ser Arg Arg Glu Asn Gly Glu Val  
2465 2470 2475 2480  
Leu Pro Leu Lys Ile Val Thr Tyr Ala Ala Val Ser Leu Ser Leu Ala  
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Ala Leu Leu Val Ala Phe Val Leu Leu Ser Leu Val Arg Met Leu Arg  
2500 2505 2510  
Ser Asn Leu His Ser Ile His Lys His Leu Ala Val Ala Leu Phe Leu  
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Ser Gln Leu Val Phe Val Ile Gly Ile Asn Gln Thr Glu Asn Pro Phe  
2530 2535 2540  
Leu Cys Thr Val Val Ala Ile Leu Leu His Tyr Ile Tyr Met Ser Thr  
2545 2550 2555 2560  
Phe Ala Trp Thr Leu Val Glu Ser Leu His Val Tyr Arg Met Leu Thr  
2565 2570 2575  
Glu Val Arg Asn Ile Asp Thr Gly Pro Met Arg Phe Tyr Tyr Val Val  
2580 2585 2590  
Gly Trp Gly Ile Pro Ala Ile Val Thr Gly Leu Ala Val Gly Leu Asp  
2595 2600 2605  
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2610 2615 2620  
Thr Leu Ile Trp Ser Phe Ala Gly Pro Ile Gly Ala Val Ile Ile Ile  
2625 2630 2635 2640  
Asn Thr Val Thr Ser Val Leu Ser Ala Lys Val Ser Cys Gln Arg Lys  
2645 2650 2655

His His Tyr Tyr Gly Lys Lys Gly Ile Val Ser Leu Leu Arg Thr Ala  
 2660 2665 2670  
 Phe Leu Leu Leu Leu Leu Ile Ser Ala Thr Trp Leu Leu Gly Leu Leu  
 2675 2680 2685  
 Ala Val Asn Arg Asp Ala Leu Ser Phe His Tyr Leu Phe Ala Ile Phe  
 2690 2695 2700  
 Ser Gly Leu Gln Gly Pro Phe Val Leu Leu Phe His Cys Val Leu Asn  
 2705 2710 2715 2720  
 Gln Glu Val Arg Lys His Leu Lys Gly Val Leu Gly Gly Arg Lys Leu  
 2725 2730 2735  
 His Leu Glu Asp Ser Ala Thr Thr Arg Ala Thr Leu Leu Thr Arg Ser  
 2740 2745 2750  
 Leu Asn Cys Asn Thr Thr Phe Gly Asp Gly Pro Asp Met Leu Arg Thr  
 2755 2760 2765  
 Asp Leu Gly Glu Ser Thr Ala Ser Leu Asp Ser Ile Val Arg Asp Glu  
 2770 2775 2780  
 Gly Ile Gln Lys Leu Gly Val Ser Ser Gly Leu Val Arg Gly Ser His  
 2785 2790 2795 2800  
 Gly Glu Pro Asp Ala Ser Leu Met Pro Arg Ser Cys Lys Asp Pro Pro  
 2805 2810 2815  
 Gly His Asp Ser Asp Ser Asp Ser Glu Leu Ser Leu Asp Glu Gln Ser  
 2820 2825 2830  
 Ser Ser Tyr Ala Ser Ser His Ser Ser Asp Ser Glu Asp Asp Gly Val  
 2835 2840 2845  
 Gly Ala Glu Glu Lys Trp Asp Pro Ala Arg Gly Ala Val His Ser Thr  
 2850 2855 2860  
 Pro Lys Gly Asp Ala Val Ala Asn His Val Pro Ala Gly Trp Pro Asp  
 2865 2870 2875 2880  
 Gln Ser Leu Ala Glu Ser Asp Ser Glu Asp Pro Ser Gly Lys Pro Arg  
 2885 2890 2895  
 Leu Lys Val Glu Thr Lys Val Ser Val Glu Leu His Arg Glu Glu Gln  
 2900 2905 2910  
 Gly Ser His Arg Gly Glu Tyr Pro Pro Asp Gln Glu Ser Gly Gly Ala  
 2915 2920 2925  
 Ala Arg Leu Ala Ser Ser Gln Pro Pro Glu Gln Arg Ser Ile Leu Lys  
 2930 2935 2940  
 Asn Lys Val Thr Tyr Pro Pro Pro Leu Thr Leu Thr Glu Gln Thr Leu  
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Lys Gly Arg Leu Arg Glu Lys Leu Ala Asp Cys Glu Gln Ser Pro Thr  
2965 2970 2975

Ser Ser Arg Thr Ser Ser Leu Gly Ser Gly Gly Pro Asp Cys Ala Ile  
2980 2985 2990

Thr Val Lys Ser Pro Gly Arg Glu Pro Gly Arg Asp His Leu Asn Gly  
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Val Ala Met Asn Val Arg Thr Gly Ser Ala Gln Ala Asp Gly Ser Asp  
3010 3015 3020

Ser Glu Lys Pro  
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<210> 70  
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<212> PRT  
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<400> 70  
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Arg Val Pro Gly Gly Ala Arg Ala Phe Ala Leu Gly Pro Gly Trp Ser  
35 40 45

Tyr Arg Leu Asp Thr Thr Arg Thr Pro Arg Glu Leu Leu Asp Val Ser  
50 55 60

Arg Glu Gly Pro Ala Ala Gly Arg Arg Leu Gly Leu Gly Ala Gly Thr  
65 70 75 80

Leu Gly Cys Ala Arg Leu Ala Gly Arg Leu Leu Pro Leu Gln Val Arg  
85 90 95

Leu Val Ala Arg Gly Ala Pro Thr Ala Pro Ser Leu Val Leu Arg Ala  
100 105 110

Arg Ala Tyr Gly Ala Arg Cys Gly Val Arg Leu Leu Arg Arg Ser Ala  
115 120 125

Arg Gly Ala Glu Leu Arg Ser Pro Ala Val Arg Ser Val Pro Gly Leu  
130 135 140

Gly Asp Ala Leu Cys Phe Pro Ala Ala Gly Gly Gly Ala Ala Ser Leu  
145 150 155 160

Thr Ser Val Leu Glu Ala Ile Thr Asn Phe Pro Ala Cys Ser Cys Pro  
165 170 175

Pro Val Ala Gly Thr Gly Cys Arg Arg Gly Pro Ile Cys Leu Arg Pro  
180 185 190

Gly	Gly	Ser	Ala	Glu	Leu	Arg	Leu	Val	Cys	Ala	Leu	Gly	Arg	Ala	Ala	
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Gly	Ala	Val	Trp	Val	Glu	Leu	Val	Ile	Gln	Ala	Thr	Ser	Gly	Thr	Pro	
	210					215					220					
Ser	Glu	Ser	Pro	Ser	Val	Ser	Pro	Ser	Leu	Leu	Asn	Leu	Ser	Gln	Pro	
225					230					235					240	
Arg	Ala	Gly	Val	Val	Arg	Arg	Ser	Arg	Arg	Gly	Thr	Gly	Ser	Ser	Thr	
				245					250					255		
Ser	Pro	Gln	Phe	Pro	Leu	Pro	Ser	Tyr	Gln	Val	Ser	Val	Pro	Glu	Asn	
			260					265					270			
Glu	Pro	Ala	Gly	Thr	Ala	Val	Ile	Glu	Leu	Arg	Ala	His	Asp	Pro	Asp	
		275					280					285				
Glu	Gly	Asp	Ala	Gly	Arg	Leu	Ser	Tyr	Gln	Met	Glu	Ala	Leu	Phe	Asp	
	290					295					300					
Glu	Arg	Ser	Asn	Gly	Tyr	Phe	Leu	Ile	Asp	Ala	Ala	Thr	Gly	Ala	Val	
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Thr	Thr	Ala	Arg	Ser	Leu	Asp	Arg	Glu	Thr	Lys	Asp	Thr	His	Val	Leu	
				325					330					335		
Lys	Val	Ser	Ala	Val	Asp	His	Gly	Ser	Pro	Arg	Arg	Ser	Ala	Ala	Thr	
			340					345					350			
Tyr	Leu	Thr	Val	Thr	Val	Ser	Asp	Thr	Asn	Asp	His	Ser	Pro	Val	Phe	
		355					360					365				
Glu	Gln	Ser	Glu	Tyr	Arg	Glu	Arg	Ile	Arg	Glu	Asn	Leu	Glu	Val	Gly	
	370					375					380					
Tyr	Glu	Val	Leu	Thr	Ile	Arg	Ala	Thr	Asp	Gly	Asp	Ala	Pro	Ser	Asn	
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Ala	Asn	Met	Arg	Tyr	Arg	Leu	Leu	Glu	Gly	Ala	Gly	Gly	Val	Phe	Glu	
				405					410					415		
Ile	Asp	Ala	Arg	Ser	Gly	Val	Val	Arg	Thr	Arg	Ala	Val	Val	Asp	Arg	
			420					425					430			
Glu	Glu	Ala	Ala	Glu	Tyr	Gln	Leu	Leu	Val	Glu	Ala	Asn	Asp	Gln	Gly	
		435					440					445				
Arg	Asn	Pro	Gly	Pro	Leu	Ser	Ala	Ser	Ala	Thr	Val	His	Ile	Val	Val	
		450				455					460					
Glu	Asp	Glu	Asn	Asp	Asn	Tyr	Pro	Gln	Phe	Ser	Glu	Lys	Arg	Tyr	Val	
465					470					475					480	
Val	Gln	Val	Pro	Glu	Asp	Val	Ala	Val	Asn	Thr	Ala	Val	Leu	Arg	Val	
				485					490					495		

Gln	Ala	Thr	Asp	Arg	Asp	Gln	Gly	Gln	Asn	Ala	Ala	Ile	His	Tyr	Ser		
			500					505					510				
Ile	Val	Ser	Gly	Asn	Leu	Lys	Gly	Gln	Phe	Tyr	Leu	His	Ser	Leu	Ser		
		515					520					525					
Gly	Ser	Leu	Asp	Val	Ile	Asn	Pro	Leu	Asp	Phe	Glu	Ala	Ile	Arg	Glu		
	530					535					540						
Tyr	Thr	Leu	Arg	Ile	Lys	Ala	Gln	Asp	Gly	Gly	Arg	Pro	Pro	Leu	Ile		
545					550					555					560		
Asn	Ser	Ser	Gly	Leu	Val	Ser	Val	Gln	Val	Leu	Asp	Val	Asn	Asp	Asn		
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Ala	Pro	Ile	Phe	Val	Ser	Ser	Pro	Phe	Gln	Ala	Ala	Val	Leu	Glu	Asn		
			580					585					590				
Val	Pro	Leu	Gly	His	Ser	Val	Leu	His	Ile	Gln	Ala	Val	Asp	Ala	Asp		
		595					600					605					
Ala	Gly	Glu	Asn	Ala	Arg	Leu	Gln	Tyr	Arg	Leu	Val	Asp	Thr	Ala	Ser		
	610					615					620						
Thr	Ile	Val	Gly	Gly	Ser	Ser	Val	Asp	Ser	Glu	Asn	Pro	Ala	Ser	Ala		
625					630					635					640		
Pro	Asp	Phe	Pro	Phe	Gln	Ile	His	Asn	Ser	Ser	Gly	Trp	Ile	Thr	Val		
				645				650						655			
Cys	Ala	Glu	Leu	Asp	Arg	Glu	Glu	Val	Glu	His	Tyr	Ser	Phe	Gly	Val		
			660					665					670				
Glu	Ala	Val	Asp	His	Gly	Ser	Pro	Ala	Met	Ser	Ser	Ser	Ala	Ser	Val		
		675					680					685					
Ser	Ile	Thr	Val	Leu	Asp	Val	Asn	Asp	Asn	Asp	Pro	Met	Phe	Thr	Gln		
	690					695					700						
Pro	Val	Tyr	Glu	Leu	Arg	Leu	Asn	Glu	Asp	Ala	Ala	Val	Gly	Ser	Ser		
705					710					715					720		
Val	Leu	Thr	Leu	Arg	Ala	Arg	Asp	Arg	Asp	Ala	Asn	Ser	Val	Ile	Thr		
				725					730					735			
Tyr	Gln	Leu	Thr	Gly	Gly	Asn	Thr	Arg	Asn	Arg	Phe	Ala	Leu	Ser	Ser		
			740					745					750				
Gln	Ser	Gly	Gly	Gly	Leu	Ile	Thr	Leu	Ala	Leu	Pro	Leu	Asp	Tyr	Lys		
		755					760					765					
Gln	Glu	Arg	Gln	Tyr	Val	Leu	Ala	Val	Thr	Ala	Ser	Asp	Gly	Thr	Arg		
		770				775					780						
Ser	His	Thr	Ala	Gln	Val	Phe	Ile	Asn	Val	Thr	Asp	Ala	Asn	Thr	His		
785					790					795					800		

Arg	Pro	Val	Phe	Gln	Ser	Ser	His	Tyr	Thr	Val	Ser	Val	Ser	Glu	Asp	805	810	815	
Arg	Pro	Val	Gly	Thr	Ser	Ile	Ala	Thr	Ile	Ser	Ala	Thr	Asp	Glu	Asp	820	825	830	
Thr	Gly	Glu	Asn	Ala	Arg	Ile	Thr	Tyr	Val	Leu	Glu	Asp	Pro	Val	Pro	835	840	845	
Gln	Phe	Arg	Ile	Asp	Pro	Asp	Thr	Gly	Thr	Ile	Tyr	Thr	Met	Thr	Glu	850	855	860	
Leu	Asp	Tyr	Glu	Asp	Gln	Ala	Ala	Tyr	Thr	Leu	Ala	Ile	Thr	Ala	Gln	865	870	875	880
Asp	Asn	Gly	Ile	Pro	Gln	Lys	Ser	Asp	Thr	Thr	Ser	Leu	Glu	Ile	Leu	885	890	895	
Ile	Leu	Asp	Ala	Asn	Asp	Asn	Ala	Pro	Arg	Phe	Leu	Arg	Asp	Phe	Tyr	900	905	910	
Gln	Gly	Ser	Val	Phe	Glu	Asp	Ala	Pro	Pro	Ser	Thr	Ser	Val	Leu	Gln	915	920	925	
Val	Ser	Ala	Thr	Asp	Arg	Asp	Ser	Gly	Pro	Asn	Gly	Arg	Leu	Leu	Tyr	930	935	940	
Thr	Phe	Gln	Gly	Gly	Asp	Asp	Gly	Asp	Gly	Asp	Phe	Tyr	Ile	Glu	Pro	945	950	955	960
Thr	Ser	Gly	Val	Ile	Arg	Thr	Gln	Arg	Arg	Leu	Asp	Arg	Glu	Asn	Val	965	970	975	
Ala	Val	Tyr	Asn	Leu	Trp	Ala	Leu	Ala	Val	Asp	Arg	Gly	Ser	Pro	Asn	980	985	990	
Pro	Leu	Ser	Ala	Ser	Val	Gly	Ile	Gln	Val	Ser	Val	Leu	Asp	Ile	Asn	995	1000	1005	
Asp	Asn	Pro	Pro	Val	Phe	Glu	Lys	Asp	Glu	Leu	Glu	Leu	Phe	Val	Glu	1010	1015	1020	
Glu	Asn	Ser	Pro	Val	Gly	Ser	Val	Val	Ala	Arg	Ile	Arg	Ala	Asn	Asp	1025	1030	1035	1040
Pro	Asp	Glu	Gly	Pro	Asn	Ala	Gln	Ile	Ile	Tyr	Gln	Ile	Val	Glu	Gly	1045	1050	1055	
Asn	Val	Pro	Glu	Val	Phe	Gln	Leu	Asp	Leu	Leu	Ser	Gly	Asp	Leu	Arg	1060	1065	1070	
Ala	Leu	Val	Glu	Leu	Asp	Phe	Glu	Val	Arg	Arg	Asp	Tyr	Met	Leu	Val	1075	1080	1085	
Val	Gln	Ala	Thr	Ser	Ala	Pro	Leu	Val	Ser	Arg	Ala	Thr	Val	His	Ile	1090	1095	1100	



Arg Leu Leu Asp Gln Asn Asp Asn Pro Pro Glu Leu Pro Asp Phe Gln  
 1105 1110 1115 1120  
 Ile Leu Phe Asn Asn Tyr Val Thr Asn Lys Ser Asn Ser Phe Pro Ser  
 1125 1130 1135  
 Gly Val Ile Gly Arg Ile Pro Ala His Asp Pro Asp Leu Ser Asp Ser  
 1140 1145 1150  
 Leu Asn Tyr Thr Phe Leu Gln Gly Asn Glu Leu Ser Leu Leu Leu Leu  
 1155 1160 1165  
 Asp Pro Ala Thr Gly Glu Leu Gln Leu Ser Arg Asp Leu Asp Asn Asn  
 1170 1175 1180  
 Arg Pro Leu Glu Ala Leu Met Glu Val Ser Val Ser Asp Gly Ile His  
 1185 1190 1195 1200  
 Ser Val Thr Ala Leu Cys Thr Leu Arg Val Thr Ile Ile Thr Asp Asp  
 1205 1210 1215  
 Met Leu Thr Asn Ser Ile Thr Val Arg Leu Glu Asn Met Ser Gln Glu  
 1220 1225 1230  
 Lys Phe Leu Ser Pro Leu Leu Ser Leu Phe Val Glu Gly Val Ala Thr  
 1235 1240 1245  
 Val Leu Ser Thr Thr Lys Asp Asp Ile Phe Val Phe Asn Ile Gln Asn  
 1250 1255 1260  
 Asp Thr Asp Val Ser Ser Asn Ile Leu Asn Val Thr Phe Ser Ala Leu  
 1265 1270 1275 1280  
 Leu Pro Gly Gly Thr Arg Gly Arg Phe Phe Pro Ser Glu Asp Leu Gln  
 1285 1290 1295  
 Glu Gln Ile Tyr Leu Asn Arg Thr Leu Leu Thr Thr Ile Ser Ala Gln  
 1300 1305 1310  
 Arg Val Leu Pro Phe Asp Asp Asn Ile Cys Leu Arg Glu Pro Cys Glu  
 1315 1320 1325  
 Asn Tyr Met Lys Cys Val Ser Val Leu Arg Phe Asp Ser Ser Ala Pro  
 1330 1335 1340  
 Phe Ile Ser Ser Thr Thr Val Leu Phe Arg Pro Ile His Pro Ile Thr  
 1345 1350 1355 1360  
 Gly Leu Arg Cys Arg Cys Pro Pro Gly Phe Thr Gly Asp Tyr Cys Glu  
 1365 1370 1375  
 Thr Glu Ile Asp Leu Cys Tyr Ser Asn Pro Cys Gly Ala Asn Gly Arg  
 1380 1385 1390  
 Cys Arg Ser Arg Glu Gly Gly Tyr Thr Cys Glu Cys Phe Glu Asp Phe  
 1395 1400 1405

Thr Gly Glu His Cys Gln Val Asn Val Arg Ser Gly Arg Cys Ala Ser  
 1410 1415 1420  
 Gly Val Cys Lys Asn Gly Gly Thr Cys Val Asn Leu Leu Ile Gly Gly  
 1425 1430 1435 1440  
 Phe His Cys Val Cys Pro Pro Gly Glu Tyr Glu His Pro Tyr Cys Glu  
 1445 1450 1455  
 Val Ser Thr Arg Ser Phe Pro Pro Gln Ser Phe Val Thr Phe Arg Gly  
 1460 1465 1470  
 Leu Arg Gln Arg Phe His Phe Thr Val Ser Leu Ala Phe Ala Thr Gln  
 1475 1480 1485  
 Asp Arg Asn Ala Leu Leu Leu Tyr Asn Gly Arg Phe Asn Glu Lys His  
 1490 1495 1500  
 Asp Phe Ile Ala Leu Glu Ile Val Glu Glu Gln Leu Gln Leu Thr Phe  
 1505 1510 1515 1520  
 Ser Ala Gly Glu Thr Thr Thr Thr Val Thr Pro Gln Val Pro Gly Gly  
 1525 1530 1535  
 Val Ser Asp Gly Arg Trp His Ser Val Leu Val Gln Tyr Tyr Asn Lys  
 1540 1545 1550  
 Pro Asn Ile Gly His Leu Gly Leu Pro His Gly Pro Ser Gly Glu Lys  
 1555 1560 1565  
 Val Ala Val Val Thr Val Asp Asp Cys Asp Ala Ala Val Ala Val His  
 1570 1575 1580  
 Phe Gly Ser Tyr Val Gly Asn Tyr Ser Cys Ala Ala Gln Gly Thr Gln  
 1585 1590 1595 1600  
 Ser Gly Ser Lys Lys Ser Leu Asp Leu Thr Gly Pro Leu Leu Leu Gly  
 1605 1610 1615  
 Gly Val Pro Asn Leu Pro Glu Asp Phe Pro Val His Ser Arg Gln Phe  
 1620 1625 1630  
 Val Gly Cys Met Arg Asn Leu Ser Ile Asp Gly Arg Ile Val Asp Met  
 1635 1640 1645  
 Ala Ala Phe Ile Ala Asn Asn Gly Thr Arg Ala Gly Cys Ala Ser Gln  
 1650 1655 1660  
 Arg Asn Phe Cys Asp Gly Thr Ser Cys Gln Asn Gly Gly Thr Cys Val  
 1665 1670 1675 1680  
 Asn Arg Trp Asn Thr Tyr Leu Cys Glu Cys Pro Leu Arg Phe Gly Gly  
 1685 1690 1695  
 Lys Asn Cys Glu Gln Ala Met Pro His Pro Gln Arg Phe Thr Gly Glu  
 1700 1705 1710

Ser Val Val Leu Trp Ser Asp Leu Asp Ile Thr Ile Ser Val Pro Trp  
 1715 1720 1725  
 Tyr Leu Gly Leu Met Phe Arg Thr Arg Lys Glu Asp Gly Val Leu Met  
 1730 1735 1740  
 Glu Ala Thr Ala Gly Thr Ser Ser Arg Leu His Leu Gln Ile Leu Asn  
 1745 1750 1755 1760  
 Ser Tyr Ile Arg Phe Glu Val Ser Tyr Gly Pro Ser Asp Val Ala Ser  
 1765 1770 1775  
 Met Gln Leu Ser Lys Ser Arg Ile Thr Asp Gly Gly Trp His His Leu  
 1780 1785 1790  
 Leu Ile Glu Leu Arg Ser Ala Lys Glu Gly Lys Asp Ile Lys Tyr Leu  
 1795 1800 1805  
 Ala Val Met Thr Leu Asp Tyr Gly Met Asp Gln Ser Thr Val Gln Ile  
 1810 1815 1820  
 Gly Asn Gln Leu Pro Gly Leu Lys Met Arg Thr Ile Val Ile Gly Gly  
 1825 1830 1835 1840  
 Val Thr Glu Asp Lys Val Ser Val Arg His Gly Phe Arg Gly Cys Met  
 1845 1850 1855  
 Gln Gly Val Arg Met Gly Glu Thr Ser Thr Asn Ile Ala Thr Leu Asn  
 1860 1865 1870  
 Met Asn Asp Ala Leu Lys Val Arg Val Lys Asp Gly Cys Asp Val Glu  
 1875 1880 1885  
 Asp Pro Cys Ala Ser Ser Pro Cys Pro Pro His Arg Pro Cys Arg Asp  
 1890 1895 1900  
 Thr Trp Asp Ser Tyr Ser Cys Ile Cys Asp Arg Gly Tyr Phe Gly Lys  
 1905 1910 1915 1920  
 Lys Cys Val Asp Ala Cys Leu Leu Asn Pro Cys Lys His Val Ala Ala  
 1925 1930 1935  
 Cys Val Arg Ser Pro Asn Thr Pro Arg Gly Tyr Ser Cys Glu Cys Gly  
 1940 1945 1950  
 Pro Gly His Tyr Gly Gln Tyr Cys Glu Asn Lys Val Asp Leu Pro Cys  
 1955 1960 1965  
 Pro Lys Gly Trp Trp Gly Asn Pro Val Cys Gly Pro Cys His Cys Ala  
 1970 1975 1980  
 Val Ser Gln Gly Phe Asp Pro Asp Cys Asn Lys Thr Asn Gly Gln Cys  
 1985 1990 1995 2000  
 Gln Cys Lys Glu Asn Tyr Tyr Lys Pro Pro Ala Gln Asp Ala Cys Leu  
 2005 2010 2015

Pro Cys Asp Cys Phe Pro His Gly Ser His Ser Arg Ala Cys Asp Met  
 2020 2025 2030  
 Asp Thr Gly Gln Cys Ala Cys Lys Pro Gly Val Ile Gly Arg Gln Cys  
 2035 2040 2045  
 Asn Arg Cys Asp Asn Pro Phe Ala Glu Val Thr Ser Leu Gly Cys Glu  
 2050 2055 2060  
 Val Ile Tyr Asn Gly Cys Pro Arg Ala Phe Glu Ala Gly Ile Trp Trp  
 2065 2070 2075 2080  
 Pro Gln Thr Lys Phe Gly Gln Pro Ala Ala Val Pro Cys Pro Lys Gly  
 2085 2090 2095  
 Ser Val Gly Asn Ala Val Arg His Cys Ser Gly Glu Lys Gly Trp Leu  
 2100 2105 2110  
 Pro Pro Glu Leu Phe Asn Cys Thr Ser Gly Ser Phe Val Asp Leu Lys  
 2115 2120 2125  
 Ala Leu Asn Glu Lys Leu Asn Arg Asn Glu Thr Arg Met Asp Gly Asn  
 2130 2135 2140  
 Arg Ser Leu Arg Leu Ala Lys Ala Leu Arg Asn Ala Thr Gln Gly Asn  
 2145 2150 2155 2160  
 Ser Thr Leu Phe Gly Asn Asp Val Arg Thr Ala Tyr Gln Leu Leu Ala  
 2165 2170 2175  
 Arg Ile Leu Gln His Glu Ser Arg Gln Gln Gly Phe Asp Leu Ala Ala  
 2180 2185 2190  
 Thr Arg Glu Ala Asn Phe His Glu Asp Val Val His Thr Gly Ser Ala  
 2195 2200 2205  
 Leu Leu Ala Pro Ala Thr Glu Ala Ser Trp Glu Gln Ile Gln Arg Ser  
 2210 2215 2220  
 Glu Ala Gly Ala Ala Gln Leu Leu Arg His Phe Glu Ala Tyr Phe Ser  
 2225 2230 2235 2240  
 Asn Val Ala Arg Asn Val Lys Arg Thr Tyr Leu Arg Pro Phe Val Ile  
 2245 2250 2255  
 Val Thr Ala Asn Met Ile Leu Ala Val Asp Ile Phe Asp Lys Leu Asn  
 2260 2265 2270  
 Phe Thr Gly Ala Gln Val Pro Arg Phe Glu Asp Ile Gln Glu Glu Leu  
 2275 2280 2285  
 Pro Arg Glu Leu Glu Ser Ser Val Ser Phe Pro Ala Asp Thr Phe Lys  
 2290 2295 2300  
 Pro Pro Glu Lys Lys Glu Gly Pro Val Val Arg Leu Thr Asn Arg Arg  
 2305 2310 2315 2320

Thr Thr Pro Leu Thr Ala Gln Pro Glu Pro Arg Ala Glu Arg Glu Thr  
 2325 2330 2335  
 Ser Ser Ser Arg Arg Arg Arg His Pro Asp Glu Pro Gly Gln Phe Ala  
 2340 2345 2350  
 Val Ala Leu Val Val Ile Tyr Arg Thr Leu Gly Gln Leu Leu Pro Glu  
 2355 2360 2365  
 His Tyr Asp Pro Asp His Arg Ser Leu Arg Leu Pro Asn Arg Pro Val  
 2370 2375 2380  
 Ile Asn Thr Pro Val Val Ser Ala Met Val Tyr Ser Glu Gly Thr Pro  
 2385 2390 2395 2400  
 Leu Pro Ser Ser Leu Gln Arg Pro Ile Leu Val Glu Phe Ser Leu Leu  
 2405 2410 2415  
 Glu Thr Glu Glu Arg Ser Lys Pro Val Cys Val Phe Trp Asn His Ser  
 2420 2425 2430  
 Leu Asp Thr Gly Gly Thr Gly Gly Trp Ser Ala Lys Gly Cys Glu Leu  
 2435 2440 2445  
 Leu Ser Arg Asn Arg Thr His Val Thr Cys Gln Cys Ser His Ser Ala  
 2450 2455 2460  
 Ser Cys Ala Val Leu Met Asp Ile Ser Arg Arg Glu His Gly Glu Val  
 2465 2470 2475 2480  
 Leu Pro Leu Lys Ile Ile Thr Tyr Ala Ala Leu Ser Leu Ser Leu Val  
 2485 2490 2495  
 Ala Leu Leu Val Ala Phe Val Leu Leu Ser Leu Val Arg Thr Leu Arg  
 2500 2505 2510  
 Ser Asn Leu His Ser Ile His Lys Asn Leu Ile Ala Ala Leu Phe Phe  
 2515 2520 2525  
 Ser Gln Leu Ile Phe Met Val Gly Ile Asn Gln Thr Glu Asn Pro Phe  
 2530 2535 2540  
 Leu Cys Thr Val Val Ala Ile Leu Leu His Tyr Val Ser Met Gly Thr  
 2545 2550 2555 2560  
 Phe Ala Trp Thr Leu Val Glu Asn Leu His Val Tyr Arg Met Leu Thr  
 2565 2570 2575  
 Glu Val Arg Asn Ile Asp Thr Gly Pro Met Arg Phe Tyr His Val Val  
 2580 2585 2590  
 Gly Trp Gly Ile Pro Ala Ile Val Thr Gly Leu Ala Val Gly Leu Asp  
 2595 2600 2605  
 Pro Gln Gly Tyr Gly Asn Pro Asp Phe Cys Trp Leu Ser Leu Gln Asp  
 2610 2615 2620

Thr Leu Ile Trp Ser Phe Ala Gly Pro Val Gly Thr Val Ile Ile Ile  
 2625 2630 2635 2640  
 Asn Thr Val Ile Phe Val Leu Ser Ala Lys Val Ser Cys Gln Arg Lys  
 2645 2650 2655  
 His His Tyr Tyr Glu Arg Lys Gly Val Val Ser Met Leu Arg Thr Ala  
 2660 2665 2670  
 Phe Leu Leu Leu Leu Leu Val Thr Ala Thr Trp Leu Leu Gly Leu Leu  
 2675 2680 2685  
 Ala Val Asn Ser Asp Thr Leu Ser Phe His Tyr Leu Phe Ala Ala Phe  
 2690 2695 2700  
 Ser Cys Leu Gln Gly Ile Phe Val Leu Leu Phe His Cys Val Ala His  
 2705 2710 2715 2720  
 Arg Glu Val Arg Lys His Leu Arg Ala Val Leu Ala Gly Lys Lys Leu  
 2725 2730 2735  
 Gln Leu Asp Asp Ser Ala Thr Thr Arg Ala Thr Leu Leu Thr Arg Ser  
 2740 2745 2750  
 Leu Asn Cys Asn Asn Thr Tyr Ser Glu Gly Pro Asp Met Leu Arg Thr  
 2755 2760 2765  
 Ala Leu Gly Glu Ser Thr Ala Ser Leu Asp Ser Thr Thr Arg Asp Glu  
 2770 2775 2780  
 Gly Val Gln Lys Leu Ser Val Ser Ser Gly Pro Ala Arg Gly Asn His  
 2785 2790 2795 2800  
 Gly Glu Pro Asp Thr Ser Phe Ile Pro Arg Asn Ser Lys Lys Ala His  
 2805 2810 2815  
 Gly Pro Asp Ser Asp Ser Asp Ser Glu Leu Ser Leu Asp Glu His Ser  
 2820 2825 2830  
 Ser Ser Tyr Ala Ser Ser His Thr Ser Asp Ser Glu Asp Asp Gly Gly  
 2835 2840 2845  
 Glu Ala Glu Asp Lys Trp Asn Pro Ala Gly Gly Pro Ala His Ser Thr  
 2850 2855 2860  
 Pro Lys Ala Asp Ala Leu Ala Asn His Val Pro Ala Gly Trp Pro Asp  
 2865 2870 2875 2880  
 Glu Ser Leu Ala Gly Ser Asp Ser Glu Glu Leu Asp Thr Glu Pro His  
 2885 2890 2895  
 Leu Lys Val Glu Thr Lys Val Ser Val Glu Leu His Arg Gln Ala Gln  
 2900 2905 2910  
 Gly Asn His Cys Gly Asp Arg Pro Ser Asp Pro Glu Ser Gly Val Leu  
 2915 2920 2925

Ala Lys Pro Val Ala Val Leu Ser Ser Gln Pro Gln Glu Gln Arg Lys  
 2930 2935 2940

Gly Ile Leu Lys Asn Lys Val Thr Tyr Pro Pro Pro Leu Pro Glu Gln  
 2945 2950 2955 2960

Pro Leu Lys Ser Arg Leu Arg Glu Lys Leu Ala Asp Cys Glu Gln Ser  
 2965 2970 2975

Pro Thr Ser Ser Arg Thr Ser Ser Leu Gly Ser Gly Asp Gly Val His  
 2980 2985 2990

Ala Thr Asp Cys Val Ile Thr Ile Lys Thr Pro Arg Arg Glu Pro Gly  
 2995 3000 3005

Arg Glu His Leu Asn Gly Val Ala Met Asn Val Arg Thr Gly Ser Ala  
 3010 3015 3020

Gln Ala Asn Gly Ser Asp Ser Glu Lys Pro  
 3025 3030

<210> 71  
 <211> 262  
 <212> PRT  
 <213> Homo sapiens

<400> 71  
 Gly Thr Gly Arg Glu Leu Val Gly Ile Thr Gly Gly Cys Asp Val Ser  
 1 5 10 15

Ala Arg Arg His Pro Trp Gln Val Ser Leu Arg Phe Tyr Ser Met Lys  
 20 25 30

Lys Gly Leu Trp Glu Pro Ile Cys Gly Gly Ser Leu Ile His Pro Glu  
 35 40 45

Trp Val Leu Thr Ala Ala His Cys Leu Gly Pro Glu Glu Leu Glu Ala  
 50 55 60

Cys Ala Phe Arg Val Gln Val Gly Gln Leu Arg Leu Tyr Glu Asp Asp  
 65 70 75 80

Gln Arg Thr Lys Val Val Glu Ile Val Arg His Pro Gln Tyr Asn Glu  
 85 90 95

Ser Leu Ser Ala Gln Gly Gly Ala Asp Ile Ala Leu Leu Lys Leu Glu  
 100 105 110

Ala Pro Val Pro Leu Ser Glu Leu Ile His Pro Val Ser Leu Pro Ser  
 115 120 125

Ala Ser Leu Asp Val Pro Ser Gly Lys Thr Cys Trp Val Thr Gly Trp  
 130 135 140

Gly Val Ile Gly Arg Gly Glu Leu Leu Pro Trp Pro Leu Ser Leu Trp



145		150		155		160									
Glu	Ala	Thr	Val	Lys	Val	Arg	Ser	Asn	Val	Leu	Cys	Asn	Gln	Thr	Cys
				165					170					175	
Arg	Arg	Arg	Phe	Pro	Ser	Asn	His	Thr	Glu	Arg	Phe	Glu	Arg	Leu	Ile
			180					185					190		
Lys	Asp	Asp	Met	Leu	Cys	Ala	Gly	Asp	Glu	Arg	His	Leu	Ser	Pro	Gln
		195					200					205			
Gly	Asp	Asn	Gly	Gly	Pro	Leu	Leu	Cys	Arg	Arg	Asn	Cys	Thr	Trp	Val
	210					215					220				
Gln	Val	Glu	Val	Val	Ser	Trp	Gly	Lys	Leu	Cys	Gly	Leu	Arg	Gly	Tyr
225					230					235					240
Pro	Gly	Met	Tyr	Thr	Arg	Val	Thr	Ser	Tyr	Val	Ser	Trp	Ile	Arg	Gln
				245					250					255	
Tyr	Val	Pro	Pro	Phe	Pro										
				260											

<210> 72  
 <211> 256  
 <212> PRT  
 <213> Canis familiaris

<400> 72

Gly	Thr	Leu	Ser	Pro	Lys	Val	Gly	Ile	Val	Gly	Gly	Cys	Lys	Val	Pro
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Ala	Arg	Arg	Tyr	Pro	Trp	Gln	Val	Ser	Leu	Arg	Phe	His	Gly	Met	Gly
			20					25					30		
Ser	Gly	Gln	Trp	Gln	His	Ile	Cys	Gly	Gly	Ser	Leu	Ile	His	Pro	Gln
		35					40					45			
Trp	Val	Leu	Thr	Ala	Ala	His	Cys	Val	Glu	Leu	Glu	Gly	Leu	Glu	Ala
	50					55					60				
Ala	Thr	Leu	Arg	Val	Gln	Val	Gly	Gln	Leu	Arg	Leu	Tyr	Asp	His	Asp
65					70					75					80
Gln	Leu	Cys	Asn	Val	Thr	Glu	Ile	Ile	Arg	His	Pro	Asn	Phe	Asn	Met
				85					90					95	
Ser	Trp	Tyr	Gly	Trp	Asp	Thr	Ala	Asp	Ile	Ala	Leu	Leu	Lys	Leu	Glu
			100					105					110		
Ala	Pro	Leu	Thr	Leu	Ser	Glu	Asp	Val	Asn	Leu	Val	Ser	Leu	Pro	Ser
		115					120					125			
Pro	Ser	Leu	Ile	Val	Pro	Pro	Gly	Met	Leu	Cys	Trp	Val	Thr	Gly	Trp
	130					135					140				

Gly	Asp	Ile	Ala	Asp	His	Thr	Pro	Leu	Pro	Pro	Pro	Tyr	His	Leu	Gln
145					150					155					160
Glu	Val	Glu	Val	Pro	Ile	Val	Gly	Asn	Arg	Glu	Cys	Asn	Cys	His	Tyr
				165					170					175	
Gln	Thr	Ile	Leu	Glu	Gln	Asp	Asp	Glu	Val	Ile	Lys	Gln	Asp	Met	Leu
			180					185					190		
Cys	Ala	Gly	Ser	Glu	Gly	His	Asp	Ser	Cys	Gln	Met	Asp	Ser	Gly	Gly
		195					200					205			
Pro	Leu	Val	Cys	Arg	Trp	Lys	Cys	Thr	Trp	Ile	Gln	Val	Gly	Val	Val
	210					215					220				
Ser	Trp	Gly	Tyr	Gly	Cys	Gly	Tyr	Asn	Leu	Pro	Gly	Val	Tyr	Ala	Arg
225					230					235					240
Val	Thr	Ser	Tyr	Val	Ser	Trp	Ile	His	Gln	His	Ile	Pro	Leu	Ser	Pro
				245					250					255	

<210> 73  
 <211> 263  
 <212> PRT  
 <213> Homo sapiens

<400> 73

Pro	Gly	Thr	Gly	Arg	Glu	Leu	Val	Gly	Ile	Thr	Gly	Gly	Cys	Asp	Val
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Ser	Ala	Arg	Arg	His	Pro	Trp	Gln	Val	Ser	Leu	Arg	Phe	Tyr	Ser	Met
			20					25					30		
Lys	Lys	Gly	Leu	Trp	Glu	Pro	Ile	Cys	Gly	Gly	Ser	Leu	Ile	His	Pro
		35					40					45			
Glu	Trp	Val	Leu	Thr	Ala	Ala	His	Cys	Leu	Gly	Pro	Glu	Glu	Leu	Glu
	50					55					60				
Ala	Cys	Ala	Phe	Arg	Val	Gln	Val	Gly	Gln	Leu	Arg	Leu	Tyr	Glu	Asp
65					70					75					80
Asp	Gln	Arg	Thr	Lys	Val	Val	Glu	Ile	Val	Arg	His	Pro	Gln	Tyr	Asn
				85					90					95	
Glu	Ser	Leu	Ser	Ala	Gln	Gly	Gly	Ala	Asp	Ile	Ala	Leu	Leu	Lys	Leu
			100					105					110		
Glu	Ala	Pro	Val	Pro	Leu	Ser	Glu	Leu	Ile	His	Pro	Val	Ser	Leu	Pro
		115					120					125			
Ser	Ala	Ser	Leu	Asp	Val	Pro	Ser	Gly	Lys	Thr	Cys	Trp	Val	Thr	Gly
						135					140				

Trp Gly Val Ile Gly Arg Gly Glu Leu Leu Pro Trp Pro Leu Ser Leu  
 145 150 155 160  
 Trp Glu Ala Thr Val Lys Val Arg Ser Asn Val Leu Cys Asn Gln Thr  
 165 170 175  
 Cys Arg Arg Arg Phe Pro Ser Asn His Thr Glu Arg Phe Glu Arg Leu  
 180 185 190  
 Ile Lys Asp Asp Met Leu Cys Ala Gly Asp Glu Arg His Leu Ser Pro  
 195 200 205  
 Gln Gly Asp Asn Gly Gly Pro Leu Leu Cys Arg Arg Asn Cys Thr Trp  
 210 215 220  
 Val Gln Val Glu Val Val Ser Trp Gly Lys Leu Cys Gly Leu Arg Gly  
 225 230 235 240  
 Tyr Pro Gly Met Tyr Thr Arg Val Thr Ser Tyr Val Ser Trp Ile Arg  
 245 250 255  
 Gln Tyr Val Pro Pro Phe Pro  
 260

<210> 74  
 <211> 254  
 <212> PRT  
 <213> Homo sapiens

<400> 74  
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 1 5 10 15  
 Pro Arg Ser Lys Trp Pro Trp Gln Val Ser Leu Arg Val His Gly Pro  
 20 25 30  
 Tyr Trp Met His Phe Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val  
 35 40 45  
 Leu Thr Ala Ala His Cys Val Gly Pro Asp Val Lys Asp Leu Ala Ala  
 50 55 60  
 Leu Arg Val Gln Leu Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu  
 65 70 75 80  
 Leu Pro Val Ser Arg Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln  
 85 90 95  
 Ile Gly Ala Asp Ile Ala Leu Leu Glu Leu Glu Glu Pro Val Lys Val  
 100 105 110  
 Ser Ser His Val His Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe  
 115 120 125  
 Pro Pro Gly Met Pro Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn

130	135	140
Asp Glu Arg Leu Pro Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro		
145	150	155 160
Ile Met Glu Asn His Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr		
	165	170 175
Thr Gly Asp Asp Val Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly		
	180	185 190
Asn Thr Arg Arg Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val		
	195	200 205
Cys Lys Val Asn Gly Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly		
	210	215 220
Glu Gly Cys Ala Gln Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr		
225	230	235 240
Tyr Tyr Leu Asp Trp Ile His His Tyr Val Pro Lys Lys Pro		
	245	250

<210> 75  
 <211> 334  
 <212> DNA  
 <213> Homo sapiens

<400> 75  
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 aggggtgccgt gtggactgtg gacgagcggg agtatcagaa gcggagaccg ccaaagatga 120  
 cagggtatgt ggggtccagag ctggatgggc tgtacctgcc cagggggcag gagccaactc 180  
 acccccaccc cctacctctc cagggtacac atgtgcacca gataccttct ggctggggga 240  
 aggggtgtgg ggagaaagga gcagaggaga ctagtgcttg gggacagggg gctggaatcc 300  
 ggaagtgatg gataatcaga aggcagacat ttat 334

<210> 76  
 <211> 334  
 <212> DNA  
 <213> Homo sapiens

<400> 76  
 agaacgccgt gcgccacaac ctcagcctgc acaagtgctt cgtccgcgtg gagaacgtca 60  
 aggggtgccgt gtggactgtg gacgagcggg agtatcagaa gcggagaccg ccaaagatga 120  
 cagggtatgt ggggtccagag ctggatgggc tgtacctgcc cagggggcag gagccaactc 180  
 acccccaccc cctacctctc cagggtacac atgtgcacca gataccttct ggctggggga 240  
 aggggtgtgg ggagaaagga gcagaggaga ctagtgcttg gggacagggg gctggaatcc 300  
 ggaagtgatg gataatcaga aggcagacat ttat 334

<210> 77  
 <211> 84  
 <212> PRT  
 <213> Homo sapiens

<400> 77

Arg Pro Pro Phe Thr Tyr Ala Ser Leu Ile Arg Gln Ala Ile Leu Glu  
1 5 10 15

Thr Pro Asp Arg Gln Leu Thr Leu Asn Glu Ile Tyr Asn Trp Phe Thr  
20 25 30

Arg Met Phe Ala Tyr Phe Arg Arg Asn Thr Ala Thr Trp Lys Asn Ala  
35 40 45

Val Arg His Asn Leu Ser Leu His Lys Cys Phe Val Arg Val Glu Asn  
50 55 60

Val Lys Gly Ala Val Trp Thr Val Asp Glu Arg Glu Tyr Gln Lys Arg  
65 70 75 80

Arg Pro Pro Lys

<210> 78

<211> 84

<212> PRT

<213> Homo sapiens

<400> 78

Arg Pro Pro Phe Thr Tyr Ala Ser Leu Ile Arg Gln Ala Ile Leu Glu  
1 5 10 15

Ser Pro Glu Lys Gln Leu Thr Leu Asn Glu Ile Tyr Asn Trp Phe Thr  
20 25 30

Arg Met Phe Ala Tyr Phe Arg Arg Asn Ala Ala Thr Trp Lys Asn Ala  
35 40 45

Val Arg His Asn Leu Ser Leu His Lys Cys Phe Val Arg Val Glu Asn  
50 55 60

Val Lys Gly Ala Val Trp Thr Val Asp Asp Val Glu Phe Gln Lys Arg  
65 70 75 80

Arg Pro Gln Lys

<210> 79

<211> 105

<212> PRT

<213> Homo sapiens

<400> 79

Tyr Ala Met Tyr Thr Asn Ser Ser Ser Tyr Gln Thr Gly Pro Asn His  
1 5 10 15

Glu Phe Tyr Lys Asn Ala Asp Val Arg Pro Pro Phe Thr Tyr Ala Ser  
20 25 30

Leu Ile Arg Gln Ala Ile Leu Glu Thr Pro Asp Arg Gln Leu Thr Leu  
           35                          40                          45  
 Asn Glu Ile Tyr Asn Trp Phe Thr Arg Met Phe Ala Tyr Phe Arg Arg  
           50                          55                          60  
 Asn Thr Ala Thr Trp Lys Asn Ala Val Arg His Asn Leu Ser Leu His  
           65                          70                          75                          80  
 Lys Cys Phe Val Arg Val Glu Asn Val Lys Gly Ala Val Trp Thr Val  
                           85                          90                          95  
 Asp Glu Arg Glu Tyr Gln Lys Arg Arg  
                           100                          105

<210> 80  
 <211> 105  
 <212> PRT  
 <213> Mus musculus

<400> 80  
 Trp Gly Ser His Gly Asn Ser Ser Phe Pro Glu Phe Phe His Asn Met  
   1                          5                          10                          15  
 Asp Tyr Phe Lys Tyr His Asn Met Arg Pro Pro Phe Thr Tyr Ala Thr  
                           20                          25                          30  
 Leu Ile Arg Trp Ala Ile Leu Glu Ala Pro Glu Arg Gln Arg Thr Leu  
           35                          40                          45  
 Asn Glu Ile Tyr His Trp Phe Thr Arg Met Phe Ala Tyr Phe Arg Asn  
           50                          55                          60  
 His Pro Ala Thr Trp Lys Asn Ala Ile Arg His Asn Leu Ser Leu His  
           65                          70                          75                          80  
 Lys Cys Phe Val Arg Val Glu Ser Glu Lys Gly Ala Val Trp Thr Val  
                           85                          90                          95  
 Asp Glu Phe Glu Phe Arg Lys Lys Arg  
                           100                          105

<210> 81  
 <211> 174  
 <212> DNA  
 <213> Homo sapiens

<400> 81  
 cccgtccccg agaatgacct ggtggggcatt gtgggggggcc acaacaccca ggggaagtgg 60  
 tcgtggcagg tcagcctgag gatctatagc taccactggg cctcctgggt gcccatctgc 120  
 gggggctccc tcatccaccc ccagtgggtg ctgaccgccg ctcaactgcat tttc 174

<210> 82  
 <211> 177

<212> DNA  
 <213> Homo sapiens

<400> 82  
 cccgtcccag agaatgacct ggtggggcatt gtgggggggcc acaatgcccc cccggggaag 60  
 tggccgtggc aggtcagcct gaggggtctac agctaccact gggcctcctg ggcgcacatc 120  
 tgtggggggt ccctcatcca cccccagtgg gtgctgactg ctgcccactg catttttc 177

<210> 83  
 <211> 267  
 <212> PRT  
 <213> Homo sapiens

<400> 83  
 Leu Leu Leu Leu Phe Leu Ala Val Ser Ser Leu Gly Ser Cys Ser Thr  
 1 5 10 15  
 Gly Ser Pro Ala Pro Val Pro Glu Asn Asp Leu Val Gly Ile Val Gly  
 20 25 30  
 Gly His Asn Thr Gln Gly Lys Trp Ser Trp Gln Val Ser Leu Arg Ile  
 35 40 45  
 Tyr Ser Tyr His Trp Ala Ser Trp Val Pro Ile Cys Gly Gly Ser Leu  
 50 55 60  
 Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Ile Phe Arg Lys  
 65 70 75 80  
 Asp Thr Asp Pro Ser Thr Tyr Arg Ile His Thr Arg Asp Val Tyr Leu  
 85 90 95  
 Tyr Gly Gly Arg Gly Leu Leu Asn Val Ser Gln Ile Val Val His Pro  
 100 105 110  
 Asn Tyr Ser Val Phe Phe Leu Gly Ala Asp Ile Ala Leu Leu Lys Leu  
 115 120 125  
 Ala Thr Ser Val Arg Thr Thr Asn Thr Leu Ala Ala Val Ala Leu Pro  
 130 135 140  
 Ser Leu Ser Leu Glu Phe Thr Asp Ser Asp Asn Cys Trp Asn Thr Gly  
 145 150 155 160  
 Trp Gly Met Val Gly Leu Leu Asp Met Leu Pro Pro Pro Tyr Arg Pro  
 165 170 175  
 Gln Gln Val Lys Val Leu Thr Leu Ser Asn Ala Asp Cys Glu Arg Gln  
 180 185 190  
 Thr Tyr Asp Ala Phe Pro Gly Ala Gly Asp Arg Lys Phe Ile Gln Asp  
 195 200 205  
 Asp Met Ile Cys Ala Gly Arg Thr Gly Arg Arg Thr Trp Lys Gly Asp  
 210 215 220



Ser Gly Gly Pro Leu Val Cys Lys Lys Lys Gly Thr Trp Leu Gln Ala  
 225 230 235 240

Gly Val Val Ser Trp Gly Phe Tyr Ser Asp Arg Pro Ser Ile Gly Val  
 245 250 255

Tyr Thr Trp Val Gln Thr Tyr Val Pro Trp Ile  
 260 265

<210> 84  
 <211> 266  
 <212> PRT  
 <213> Homo sapiens

<400> 84  
 Leu Asn Leu Leu Leu Leu Ala Leu Pro Val Leu Ala Ser Arg Ala Tyr  
 1 5 10 15

Ala Ala Pro Ala Pro Gly Gln Ala Leu Gln Arg Val Gly Ile Val Gly  
 20 25 30

Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val Ser Leu Arg  
 35 40 45

Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser Leu Ile His  
 50 55 60

Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro Asp Val Lys  
 65 70 75 80

Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His Leu Tyr Tyr  
 85 90 95

Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His Pro Gln Phe  
 100 105 110

Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu Leu Glu Glu  
 115 120 125

Pro Val Lys Val Ser Ser His Val His Thr Val Thr Leu Pro Pro Ala  
 130 135 140

Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr Gly Trp Gly  
 145 150 155 160

Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro Leu Lys Gln  
 165 170 175

Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala Lys Tyr His  
 180 185 190

Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg Asp Asp Met  
 195 200 205

Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly Asp Ser Gly  
 210 215 220

Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln Ala Gly Val  
 225 230 235 240

Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro Gly Ile Tyr  
 245 250 255

Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile  
 260 265

<210> 85  
 <211> 248  
 <212> PRT  
 <213> Homo sapiens

<400> 85  
 Ala Pro Val Pro Glu Asn Asp Leu Val Gly Ile Val Gly Gly His Asn  
 1 5 10 15

Thr Gln Gly Lys Trp Ser Trp Gln Val Ser Leu Arg Ile Tyr Ser Tyr  
 20 25 30

His Trp Ala Ser Trp Val Pro Ile Cys Gly Gly Ser Leu Ile His Pro  
 35 40 45

Gln Trp Val Leu Thr Ala Ala His Cys Ile Phe Arg Lys Asp Thr Asp  
 50 55 60

Pro Ser Thr Tyr Arg Ile His Thr Arg Asp Val Tyr Leu Tyr Gly Gly  
 65 70 75 80

Arg Gly Leu Leu Asn Val Ser Gln Ile Val Val His Pro Asn Tyr Ser  
 85 90 95

Val Phe Phe Leu Gly Ala Asp Ile Ala Leu Leu Lys Leu Ala Thr Ser  
 100 105 110

Val Arg Thr Thr Asn Thr Leu Ala Ala Val Ala Leu Pro Ser Leu Ser  
 115 120 125

Leu Glu Phe Thr Asp Ser Asp Asn Cys Trp Asn Thr Gly Trp Gly Met  
 130 135 140

Val Gly Leu Leu Asp Met Leu Pro Pro Pro Tyr Arg Pro Gln Gln Val  
 145 150 155 160

Lys Val Leu Thr Leu Ser Asn Ala Asp Cys Glu Arg Gln Thr Tyr Asp  
 165 170 175

Ala Phe Pro Gly Ala Gly Asp Arg Lys Phe Ile Gln Asp Asp Met Ile  
 180 185 190

Cys Ala Gly Arg Thr Gly Arg Arg Thr Trp Lys Gly Asp Ser Gly Gly  
 195 200 205

Pro Leu Val Cys Lys Lys Lys Gly Thr Trp Leu Gln Ala Gly Val Val

210		215		220
Ser Trp Gly Phe Tyr	Ser Asp Arg Pro Ser	Ile Gly Val Tyr Thr	Trp	
225	230	235	240	
Val Gln Thr Tyr Val	Pro Trp Ile			
	245			

<210> 86  
 <211> 247  
 <212> PRT  
 <213> Mus musculus

<400> 86

Ala Pro Arg Pro Ala	Asn Gln Arg Val Gly	Ile Val Gly Gly His	Glu
1	5	10	15
Ala Ser Glu Ser Lys	Trp Pro Trp Gln Val	Ser Leu Arg Phe	Lys Leu
	20	25	30
Asn Tyr Trp Ile His	Phe Cys Gly Gly Ser	Leu Ile His Pro	Gln Trp
	35	40	45
Val Leu Thr Ala Ala	His Cys Val Gly Pro	His Ile Lys Ser	Pro Gln
	50	55	60
Leu Phe Arg Val Gln	Leu Arg Glu Gln Tyr	Leu Tyr Tyr Gly	Asp Gln
	65	70	75
Leu Leu Ser Leu Asn	Arg Ile Val Val His	Pro His Tyr Tyr	Thr Ala
	85	90	95
Glu Gly Gly Ala Asp	Val Ala Leu Leu Glu	Leu Glu Val Pro	Val Asn
	100	105	110
Val Ser Thr His Ile	His Pro Ile Ser Leu	Pro Pro Ala Ser	Glu Thr
	115	120	125
Phe Pro Pro Gly Thr	Ser Cys Trp Val Thr	Gly Trp Gly Asp	Ile Asp
	130	135	140
Asn Asp Glu Pro Leu	Pro Pro Pro Tyr Pro	Leu Lys Gln Val	Lys Val
	145	150	155
Pro Ile Val Glu Asn	Ser Leu Cys Asp Arg	Lys Tyr His Thr	Gly Leu
	165	170	175
Tyr Thr Gly Asp Asp	Phe Pro Ile Val His	Asp Gly Met Leu	Cys Ala
	180	185	190
Gly Asn Thr Arg Arg	Asp Ser Cys Gln Gly	Asp Ser Gly Gly	Pro Leu
	195	200	205
Val Cys Lys Val Lys	Gly Thr Trp Leu Gln	Ala Gly Val Val	Ser Trp
	210	215	220

Gly Glu Gly Cys Ala Gln Pro Asn Lys Pro Gly Ile Tyr Thr Arg Val  
 225 230 235 240

Thr Tyr Tyr Leu Asp Trp Ile  
 245

<210> 87  
 <211> 113  
 <212> DNA  
 <213> Homo sapiens

<400> 87  
 catctgtggg ggctccctca tccacccaga gtgggtgctg accgccgcc actgcctttt 60  
 tctgtggggg ctccctcatc caccagagt ggggtgctgac cgccgccac tgc 113

<210> 88  
 <211> 113  
 <212> DNA  
 <213> Homo sapiens

<400> 88  
 catctgtggg ggctccctca tccaccccca gtgggtgctg actgctgccc actgcatttt 60  
 tctgcggggg ctccctcatc caccaccagt ggggtgctgac cgcagcgac tgc 113

<210> 89  
 <211> 261  
 <212> PRT  
 <213> Homo sapiens

<400> 89  
 Gly Thr Gly Arg Glu Leu Val Gly Ile Thr Gly Gly Cys Asp Val Ser  
 1 5 10 15  
 Ala Arg Arg His Pro Trp Gln Val Ser Leu Arg Phe Tyr Ser Met Lys  
 20 25 30  
 Lys Gly Leu Trp Glu Pro Ile Cys Gly Gly Ser Leu Ile His Pro Glu  
 35 40 45  
 Trp Val Leu Thr Ala Ala His Cys Leu Leu Glu Glu Leu Glu Ala Cys  
 50 55 60  
 Ala Phe Arg Val Gln Val Gly Gln Leu Arg Leu Tyr Glu Asp Asp Gln  
 65 70 75 80  
 Arg Thr Lys Val Val Glu Ile Val Arg His Pro Gln Tyr Asn Glu Ser  
 85 90 95  
 Leu Ser Ala Gln Gly Gly Ala Asp Ile Ala Leu Leu Lys Leu Glu Ala  
 100 105 110  
 Pro Val Pro Leu Ser Glu Leu Ile His Pro Val Ser Leu Pro Ser Ala  
 115 120 125

Ser Leu Asp Val Pro Ser Gly Lys Thr Cys Trp Val Thr Gly Trp Gly  
 130 135 140  
 Val Ile Gly Arg Gly Glu Leu Leu Pro Trp Pro Leu Ser Leu Trp Glu  
 145 150 155 160  
 Ala Thr Val Lys Val Arg Ser Asn Val Leu Cys Asn Gln Thr Cys Arg  
 165 170 175  
 Arg Arg Phe Pro Ser Asn His Thr Glu Arg Phe Glu Arg Leu Ile Lys  
 180 185 190  
 Asp Asp Met Leu Cys Ala Gly Asp Gly Asn His Gly Ser Trp Pro Gly  
 195 200 205  
 Asp Asn Gly Gly Pro Leu Leu Cys Arg Arg Asn Cys Thr Trp Val Gln  
 210 215 220  
 Val Glu Val Val Ser Trp Gly Lys Leu Cys Gly Leu Arg Gly Tyr Pro  
 225 230 235 240  
 Gly Met Tyr Thr Arg Val Thr Ser Tyr Val Ser Trp Ile Arg Gln Tyr  
 245 250 255  
 Val Pro Pro Phe Pro  
 260

<210> 90  
 <211> 256  
 <212> PRT  
 <213> Canis familiaris

<400> 90  
 Gly Thr Leu Ser Pro Lys Val Gly Ile Val Gly Gly Cys Lys Val Pro  
 1 5 10 15  
 Ala Arg Arg Tyr Pro Trp Gln Val Ser Leu Arg Phe His Gly Met Gly  
 20 25 30  
 Ser Gly Gln Trp Gln His Ile Cys Gly Gly Ser Leu Ile His Pro Gln  
 35 40 45  
 Trp Val Leu Thr Ala Ala His Cys Val Glu Leu Glu Gly Leu Glu Ala  
 50 55 60  
 Ala Thr Leu Arg Val Gln Val Gly Gln Leu Arg Leu Tyr Asp His Asp  
 65 70 75 80  
 Gln Leu Cys Asn Val Thr Glu Ile Ile Arg His Pro Asn Phe Asn Met  
 85 90 95  
 Ser Trp Tyr Gly Trp Asp Thr Ala Asp Ile Ala Leu Leu Lys Leu Glu  
 100 105 110  
 Ala Pro Leu Thr Leu Ser Glu Asp Val Asn Leu Val Ser Leu Pro Ser  
 115 120 125

Pro	Ser	Leu	Ile	Val	Pro	Pro	Gly	Met	Leu	Cys	Trp	Val	Thr	Gly	Trp
130							135				140				
Gly	Asp	Ile	Ala	Asp	His	Thr	Pro	Leu	Pro	Pro	Pro	Tyr	His	Leu	Gln
145					150					155					160
Glu	Val	Glu	Val	Pro	Ile	Val	Gly	Asn	Arg	Glu	Cys	Asn	Cys	His	Tyr
				165					170					175	
Gln	Thr	Ile	Leu	Glu	Gln	Asp	Asp	Glu	Val	Ile	Lys	Gln	Asp	Met	Leu
			180					185					190		
Cys	Ala	Gly	Ser	Glu	Gly	His	Asp	Ser	Cys	Gln	Met	Asp	Ser	Gly	Gly
		195					200					205			
Pro	Leu	Val	Cys	Arg	Trp	Lys	Cys	Thr	Trp	Ile	Gln	Val	Gly	Val	Val
	210					215					220				
Ser	Trp	Gly	Tyr	Gly	Cys	Gly	Tyr	Asn	Leu	Pro	Gly	Val	Tyr	Ala	Arg
225					230					235					240
Val	Thr	Ser	Tyr	Val	Ser	Trp	Ile	His	Gln	His	Ile	Pro	Leu	Ser	Pro
				245					250					255	

<210> 91  
 <211> 264  
 <212> PRT  
 <213> Homo sapiens

<400> 91  
 Pro Gly Glu Gly Thr Gly Arg Glu Leu Val Gly Ile Thr Gly Gly Cys  
 1 5 10 15  
 Asp Val Ser Ala Arg Arg His Pro Trp Gln Val Ser Leu Arg Phe Tyr  
 20 25 30  
 Ser Met Lys Lys Gly Leu Trp Glu Pro Ile Cys Gly Gly Ser Leu Ile  
 35 40 45  
 His Pro Glu Trp Val Leu Thr Ala Ala His Cys Leu Leu Glu Glu Leu  
 50 55 60  
 Glu Ala Cys Ala Phe Arg Val Gln Val Gly Gln Leu Arg Leu Tyr Glu  
 65 70 75 80  
 Asp Asp Gln Arg Thr Lys Val Val Glu Ile Val Arg His Pro Gln Tyr  
 85 90 95  
 Asn Glu Ser Leu Ser Ala Gln Gly Gly Ala Asp Ile Ala Leu Leu Lys  
 100 105 110  
 Leu Glu Ala Pro Val Pro Leu Ser Glu Leu Ile His Pro Val Ser Leu

115						120						125					
Pro	Ser	Ala	Ser	Leu	Asp	Val	Pro	Ser	Gly	Lys	Thr	Cys	Trp	Val	Thr		
	130					135					140						
Gly	Trp	Gly	Val	Ile	Gly	Arg	Gly	Glu	Leu	Leu	Pro	Trp	Pro	Leu	Ser		
145					150					155					160		
Leu	Trp	Glu	Ala	Thr	Val	Lys	Val	Arg	Ser	Asn	Val	Leu	Cys	Asn	Gln		
				165					170					175			
Thr	Cys	Arg	Arg	Arg	Phe	Pro	Ser	Asn	His	Thr	Glu	Arg	Phe	Glu	Arg		
			180					185					190				
Leu	Ile	Lys	Asp	Asp	Met	Leu	Cys	Ala	Gly	Asp	Gly	Asn	His	Gly	Ser		
		195					200					205					
Trp	Pro	Gly	Asp	Asn	Gly	Gly	Pro	Leu	Leu	Cys	Arg	Arg	Asn	Cys	Thr		
	210					215					220						
Trp	Val	Gln	Val	Glu	Val	Val	Ser	Trp	Gly	Lys	Leu	Cys	Gly	Leu	Arg		
225					230					235					240		
Gly	Tyr	Pro	Gly	Met	Tyr	Thr	Arg	Val	Thr	Ser	Tyr	Val	Ser	Trp	Ile		
				245					250					255			
Arg	Gln	Tyr	Val	Pro	Pro	Phe	Pro										
			260														

<210> 92  
 <211> 256  
 <212> PRT  
 <213> Homo sapiens

<400> 92															
Pro	Ala	Pro	Gly	Gln	Ala	Leu	Gln	Arg	Val	Gly	Ile	Val	Gly	Gly	Gln
1				5					10					15	
Glu	Ala	Pro	Arg	Ser	Lys	Trp	Pro	Trp	Gln	Val	Ser	Leu	Arg	Val	His
			20					25					30		
Gly	Pro	Tyr	Trp	Met	His	Phe	Cys	Gly	Gly	Ser	Leu	Ile	His	Pro	Gln
		35					40					45			
Trp	Val	Leu	Thr	Ala	Ala	His	Cys	Val	Gly	Pro	Asp	Val	Lys	Asp	Leu
	50					55					60				
Ala	Ala	Leu	Arg	Val	Gln	Leu	Arg	Glu	Gln	His	Leu	Tyr	Tyr	Gln	Asp
65					70					75					80
Gln	Leu	Leu	Pro	Val	Ser	Arg	Ile	Ile	Val	His	Pro	Gln	Phe	Tyr	Thr
				85					90					95	
Ala	Gln	Ile	Gly	Ala	Asp	Ile	Ala	Leu	Leu	Glu	Leu	Glu	Glu	Pro	Val
			100					105					110		



Lys	Val	Ser	Ser	His	Val	His	Thr	Val	Thr	Leu	Pro	Pro	Ala	Ser	Glu
	115						120					125			
Thr	Phe	Pro	Pro	Gly	Met	Pro	Cys	Trp	Val	Thr	Gly	Trp	Gly	Asp	Val
	130					135					140				
Asp	Asn	Asp	Glu	Arg	Leu	Pro	Pro	Pro	Phe	Pro	Leu	Lys	Gln	Val	Lys
145					150				155						160
Val	Pro	Ile	Met	Glu	Asn	His	Ile	Cys	Asp	Ala	Lys	Tyr	His	Leu	Gly
				165					170					175	
Ala	Tyr	Thr	Gly	Asp	Asp	Val	Arg	Ile	Val	Arg	Asp	Asp	Met	Leu	Cys
			180					185					190		
Ala	Gly	Asn	Thr	Arg	Arg	Asp	Ser	Cys	Gln	Gly	Asp	Ser	Gly	Gly	Pro
	195						200					205			
Leu	Val	Cys	Lys	Val	Asn	Gly	Thr	Trp	Leu	Gln	Ala	Gly	Val	Val	Ser
	210					215					220				
Trp	Gly	Glu	Gly	Cys	Ala	Gln	Pro	Asn	Arg	Pro	Gly	Ile	Tyr	Thr	Arg
225					230					235					240
Val	Thr	Tyr	Tyr	Leu	Asp	Trp	Ile	His	His	Tyr	Val	Pro	Lys	Lys	Pro
				245					250					255	

<210> 93  
 <211> 125  
 <212> DNA  
 <213> Homo sapiens

<400> 93  
 gcggacatcg ccctgctgaa gctggaggcc ccggtgccgc tgtctgagct catccacccg 60  
 gtctcgctcc cgtctgcctc ccgggacgtg ccctcgggga agacctgctg ggtgaccggc 120  
 tgggg 125

<210> 94  
 <211> 125  
 <212> DNA  
 <213> Canis familiaris

<400> 94  
 gcggacatcg ccctgctgaa gctggaggcc cccctgacgc tctccgagga cgtcaacctg 60  
 gtgtccctcc cgtctccctc cctgattgtc cccccgggga tgctatgctg ggtgaccggc 120  
 tgggg 125

<210> 95  
 <211> 203  
 <212> PRT  
 <213> Homo sapiens

<400> 95

Glu Glu Leu Glu Ala Cys Ala Phe Arg Val Gln Val Gly Gln Leu Arg  
1 5 10 15

Leu Tyr Glu Asp Asp Gln Arg Thr Lys Val Val Glu Ile Val Arg His  
20 25 30

Pro Gln Tyr Asn Glu Ser Leu Ser Ala Gln Gly Gly Ala Asp Ile Ala  
35 40 45

Leu Leu Lys Leu Glu Ala Pro Val Pro Leu Ser Glu Leu Ile His Pro  
50 55 60

Val Ser Leu Pro Ser Ala Ser Arg Asp Val Pro Ser Gly Lys Thr Cys  
65 70 75 80

Trp Val Thr Gly Trp Gly Val Ile Gly Arg Gly Glu Leu Leu Pro Trp  
85 90 95

Pro Leu Ser Leu Trp Glu Ala Thr Val Lys Val Arg Ser Asn Val Leu  
100 105 110

Cys Asn Gln Thr Cys Arg Arg Arg Phe Pro Ser Asn His Thr Glu Arg  
115 120 125

Phe Glu Arg Leu Ile Lys Asp Asp Met Leu Cys Ala Gly Asp Gly Asn  
130 135 140

His Gly Ser Trp Pro Gly Asp Asn Gly Gly Pro Leu Leu Cys Arg Arg  
145 150 155 160

Asn Cys Thr Trp Val Gln Val Glu Val Val Ser Trp Gly Lys Leu Cys  
165 170 175

Gly Leu Arg Gly Tyr Pro Gly Met Tyr Thr Arg Val Thr Ser Tyr Val  
180 185 190

Ser Trp Ile Arg Gln Tyr Val Pro Pro Phe Pro  
195 200

<210> 96

<211> 197

<212> PRT

<213> Canis familiaris

<400> 96

Glu Gly Leu Glu Ala Ala Thr Leu Arg Val Gln Val Gly Gln Leu Arg  
1 5 10 15

Leu Tyr Asp His Asp Gln Leu Cys Asn Val Thr Glu Ile Ile Arg His  
20 25 30

Pro Asn Phe Asn Met Ser Trp Tyr Gly Trp Asp Thr Ala Asp Ile Ala  
35 40 45

Leu Leu Lys Leu Glu Ala Pro Leu Thr Leu Ser Glu Asp Val Asn Leu  
 50 55 60  
 Val Ser Leu Pro Ser Pro Ser Leu Ile Val Pro Pro Gly Met Leu Cys  
 65 70 75 80  
 Trp Val Thr Gly Trp Gly Asp Ile Ala Asp His Thr Pro Leu Pro Pro  
 85 90 95  
 Pro Tyr His Leu Gln Glu Val Glu Val Pro Ile Val Gly Asn Arg Glu  
 100 105 110  
 Cys Asn Cys His Tyr Gln Thr Ile Leu Glu Gln Asp Asp Glu Val Ile  
 115 120 125  
 Lys Gln Asp Met Leu Cys Ala Gly Ser Glu Gly His Asp Ser Cys Gln  
 130 135 140  
 Met Asp Ser Gly Gly Pro Leu Val Cys Arg Trp Lys Cys Thr Trp Ile  
 145 150 155 160  
 Gln Val Gly Val Val Ser Trp Gly Tyr Gly Cys Gly Tyr Asn Leu Pro  
 165 170 175  
 Gly Val Tyr Ala Arg Val Thr Ser Tyr Val Ser Trp Ile His Gln His  
 180 185 190  
 Ile Pro Leu Ser Pro  
 195

<210> 97  
 <211> 205  
 <212> PRT  
 <213> Homo sapiens

<400> 97  
 Gly Arg Glu Glu Leu Glu Ala Cys Ala Phe Arg Val Gln Val Gly Gln  
 1 5 10 15  
 Leu Arg Leu Tyr Glu Asp Asp Gln Arg Thr Lys Val Val Glu Ile Val  
 20 25 30  
 Arg His Pro Gln Tyr Asn Glu Ser Leu Ser Ala Gln Gly Gly Ala Asp  
 35 40 45  
 Ile Ala Leu Leu Lys Leu Glu Ala Pro Val Pro Leu Ser Glu Leu Ile  
 50 55 60  
 His Pro Val Ser Leu Pro Ser Ala Ser Arg Asp Val Pro Ser Gly Lys  
 65 70 75 80  
 Thr Cys Trp Val Thr Gly Trp Gly Val Ile Gly Arg Gly Glu Leu Leu  
 85 90 95  
 Pro Trp Pro Leu Ser Leu Trp Glu Ala Thr Val Lys Val Arg Ser Asn  
 100 105 110

Val	Leu	Cys	Asn	Gln	Thr	Cys	Arg	Arg	Arg	Phe	Pro	Ser	Asn	His	Thr
	115						120					125			
Glu	Arg	Phe	Glu	Arg	Leu	Ile	Lys	Asp	Asp	Met	Leu	Cys	Ala	Gly	Asp
	130					135					140				
Gly	Asn	His	Gly	Ser	Trp	Pro	Gly	Asp	Asn	Gly	Gly	Pro	Leu	Leu	Cys
145					150					155					160
Arg	Arg	Asn	Cys	Thr	Trp	Val	Gln	Val	Glu	Val	Val	Ser	Trp	Gly	Lys
				165					170					175	
Leu	Cys	Gly	Leu	Arg	Gly	Tyr	Pro	Gly	Met	Tyr	Thr	Arg	Val	Thr	Ser
			180					185					190		
Tyr	Val	Ser	Trp	Ile	Arg	Gln	Tyr	Val	Pro	Pro	Phe	Pro			
	195					200						205			

<210> 98  
 <211> 199  
 <212> PRT  
 <213> Homo sapiens

<400> 98															
Gly	Pro	Asp	Val	Lys	Asp	Leu	Ala	Ala	Leu	Arg	Val	Gln	Leu	Arg	Glu
1				5					10					15	
Gln	His	Leu	Tyr	Tyr	Gln	Asp	Gln	Leu	Leu	Pro	Val	Ser	Arg	Ile	Ile
			20					25					30		
Val	His	Pro	Gln	Phe	Tyr	Thr	Ala	Gln	Ile	Gly	Ala	Asp	Ile	Ala	Leu
			35				40					45			
Leu	Glu	Leu	Glu	Glu	Pro	Val	Lys	Val	Ser	Ser	His	Val	His	Thr	Val
	50					55					60				
Thr	Leu	Pro	Pro	Ala	Ser	Glu	Thr	Phe	Pro	Pro	Gly	Met	Pro	Cys	Trp
65					70					75					80
Val	Thr	Gly	Trp	Gly	Asp	Val	Asp	Asn	Asp	Glu	Arg	Leu	Pro	Pro	Pro
				85					90					95	
Phe	Pro	Leu	Lys	Gln	Val	Lys	Val	Pro	Ile	Met	Glu	Asn	His	Ile	Cys
			100					105					110		
Asp	Ala	Lys	Tyr	His	Leu	Gly	Ala	Tyr	Thr	Gly	Asp	Asp	Val	Arg	Ile
		115					120					125			
Val	Arg	Asp	Asp	Met	Leu	Cys	Ala	Gly	Asn	Thr	Arg	Arg	Asp	Ser	Cys
	130					135					140				
Gln	Gly	Asp	Ser	Gly	Gly	Pro	Leu	Val	Cys	Lys	Val	Asn	Gly	Thr	Trp
145					150					155					160
Leu	Gln	Ala	Gly	Val	Val	Ser	Trp	Gly	Glu	Gly	Cys	Ala	Gln	Pro	Asn

	165		170		175										
Arg	Pro	Gly	Ile	Tyr	Thr	Arg	Val	Thr	Tyr	Tyr	Leu	Asp	Trp	Ile	His
		180						185					190		
His	Tyr	Val	Pro	Lys	Lys	Pro									
		195													

<210> 99  
 <211> 120  
 <212> DNA  
 <213> Homo sapiens

<400> 99  
 gccaggaggc acccctggca ggtcagcctg aggttctaca gcatgaagaa gggctctgtgg 60  
 gagcccatct gtgggggctc cctcatccac ccagagtggg tgctgaccgc cgcccactgc 120

<210> 100  
 <211> 120  
 <212> DNA  
 <213> Canis familiaris

<400> 100  
 gccaggaggt acccgtggca ggtcagcctg aggttccatg gcatgggtag cggccagtgg 60  
 cagcacatct gcggaggctc cctcatccac ccccagtggg tgctgaccgc ggcccactgc 120

<210> 101  
 <211> 262  
 <212> PRT  
 <213> Homo sapiens

<400> 101  
 Gly Thr Gly Arg Glu Leu Val Gly Ile Thr Gly Gly Cys Asp Val Ser  
 1 5 10 15  
 Ala Arg Arg His Pro Trp Gln Val Ser Leu Arg Phe Tyr Ser Met Lys  
 20 25 30  
 Lys Gly Leu Trp Glu Pro Ile Cys Gly Gly Ser Leu Ile His Pro Glu  
 35 40 45  
 Trp Val Leu Thr Ala Ala His Cys Leu Gly Arg Glu Glu Leu Glu Ala  
 50 55 60  
 Cys Ala Phe Arg Val Gln Val Gly Gln Leu Arg Leu Tyr Glu Asp Asp  
 65 70 75 80  
 Gln Arg Thr Lys Val Val Glu Ile Val Arg His Pro Gln Tyr Asn Glu  
 85 90 95  
 Ser Leu Ser Ala Gln Gly Gly Ala Asp Ile Ala Leu Leu Lys Leu Glu  
 100 105 110  
 Ala Pro Val Pro Leu Ser Glu Leu Ile His Pro Val Ser Leu Pro Ser

115					120					125						
Ala	Ser	Arg	Pro	Gly	Leu	Gln	Thr	Arg	Pro	Gly	Trp	Leu	Pro	Ala	Ala	
130					135					140						
Ala	Glu	Thr	Asp	Gly	Gln	Glu	Leu	Leu	Pro	Trp	Pro	Leu	Ser	Leu	Trp	
145					150					155					160	
Glu	Ala	Thr	Val	Lys	Val	Arg	Ser	Asn	Val	Leu	Cys	Asn	Gln	Thr	Cys	
165					170					175						
Arg	Arg	Arg	Phe	Pro	Ser	Asn	His	Thr	Glu	Arg	Phe	Glu	Arg	Leu	Ile	
180					185					190						
Lys	Asp	Asp	Met	Leu	Cys	Ala	Gly	Asp	Gly	Asn	His	Gly	Ser	Trp	Pro	
195					200					205						
Gly	Asp	Asn	Gly	Gly	Pro	Leu	Leu	Cys	Arg	Arg	Asn	Cys	Thr	Trp	Val	
210					215					220						
Gln	Val	Glu	Val	Val	Ser	Trp	Gly	Lys	Leu	Cys	Gly	Leu	Arg	Gly	Tyr	
225					230					235					240	
Pro	Gly	Met	Tyr	Thr	Arg	Val	Thr	Ser	Tyr	Val	Ser	Trp	Ile	Arg	Gln	
245					250					255						
Tyr	Val	Pro	Pro	Phe	Pro											
260																

<210> 102  
 <211> 256  
 <212> PRT  
 <213> Canis familiaris

<400> 102															
Gly	Thr	Leu	Ser	Pro	Lys	Val	Gly	Ile	Val	Gly	Gly	Cys	Lys	Val	Pro
1				5					10					15	
Ala	Arg	Arg	Tyr	Pro	Trp	Gln	Val	Ser	Leu	Arg	Phe	His	Gly	Met	Gly
			20					25					30		
Ser	Gly	Gln	Trp	Gln	His	Ile	Cys	Gly	Gly	Ser	Leu	Ile	His	Pro	Gln
		35					40					45			
Trp	Val	Leu	Thr	Ala	Ala	His	Cys	Val	Glu	Leu	Glu	Gly	Leu	Glu	Ala
		50				55					60				
Ala	Thr	Leu	Arg	Val	Gln	Val	Gly	Gln	Leu	Arg	Leu	Tyr	Asp	His	Asp
65					70					75					80
Gln	Leu	Cys	Asn	Val	Thr	Glu	Ile	Ile	Arg	His	Pro	Asn	Phe	Asn	Met
				85					90					95	
Ser	Trp	Tyr	Gly	Trp	Asp	Thr	Ala	Asp	Ile	Ala	Leu	Leu	Lys	Leu	Glu
			100					105					110		

Ala	Pro	Leu	Thr	Leu	Ser	Glu	Asp	Val	Asn	Leu	Val	Ser	Leu	Pro	Ser
		115					120					125			
Pro	Ser	Leu	Ile	Val	Pro	Pro	Gly	Met	Leu	Cys	Trp	Val	Thr	Gly	Trp
		130				135					140				
Gly	Asp	Ile	Ala	Asp	His	Thr	Pro	Leu	Pro	Pro	Pro	Tyr	His	Leu	Gln
145					150					155					160
Glu	Val	Glu	Val	Pro	Ile	Val	Gly	Asn	Arg	Glu	Cys	Asn	Cys	His	Tyr
				165				170						175	
Gln	Thr	Ile	Leu	Glu	Gln	Asp	Asp	Glu	Val	Ile	Lys	Gln	Asp	Met	Leu
			180					185					190		
Cys	Ala	Gly	Ser	Glu	Gly	His	Asp	Ser	Cys	Gln	Met	Asp	Ser	Gly	Gly
		195					200					205			
Pro	Leu	Val	Cys	Arg	Trp	Lys	Cys	Thr	Trp	Ile	Gln	Val	Gly	Val	Val
		210				215					220				
Ser	Trp	Gly	Tyr	Gly	Cys	Gly	Tyr	Asn	Leu	Pro	Gly	Val	Tyr	Ala	Arg
225					230					235					240
Val	Thr	Ser	Tyr	Val	Ser	Trp	Ile	His	Gln	His	Ile	Pro	Leu	Ser	Pro
				245					250					255	

<210> 103  
 <211> 273  
 <212> PRT  
 <213> Homo sapiens

<400> 103

Met	Gly	Ser	Gln	Arg	Cys	Gln	Gly	Gly	Gly	Pro	Gly	Thr	Gly	Arg	Glu
1				5					10					15	
Leu	Val	Gly	Ile	Thr	Gly	Gly	Cys	Asp	Val	Ser	Ala	Arg	Arg	His	Pro
			20					25					30		
Trp	Gln	Val	Ser	Leu	Arg	Phe	Tyr	Ser	Met	Lys	Lys	Gly	Leu	Trp	Glu
		35				40						45			
Pro	Ile	Cys	Gly	Gly	Ser	Leu	Ile	His	Pro	Glu	Trp	Val	Leu	Thr	Ala
	50					55					60				
Ala	His	Cys	Leu	Gly	Arg	Glu	Glu	Leu	Glu	Ala	Cys	Ala	Phe	Arg	Val
65					70					75					80
Gln	Val	Gly	Gln	Leu	Arg	Leu	Tyr	Glu	Asp	Asp	Gln	Arg	Thr	Lys	Val
				85				90						95	
Val	Glu	Ile	Val	Arg	His	Pro	Gln	Tyr	Asn	Glu	Ser	Leu	Ser	Ala	Gln
			100					105						110	



Gly Gly Ala Asp Ile Ala Leu Leu Lys Leu Glu Ala Pro Val Pro Leu  
 115 120 125  
 Ser Glu Leu Ile His Pro Val Ser Leu Pro Ser Ala Ser Arg Pro Gly  
 130 135 140  
 Leu Gln Thr Arg Pro Gly Trp Leu Pro Ala Ala Ala Glu Thr Asp Gly  
 145 150 155 160  
 Gln Glu Leu Leu Pro Trp Pro Leu Ser Leu Trp Glu Ala Thr Val Lys  
 165 170 175  
 Val Arg Ser Asn Val Leu Cys Asn Gln Thr Cys Arg Arg Arg Phe Pro  
 180 185 190  
 Ser Asn His Thr Glu Arg Phe Glu Arg Leu Ile Lys Asp Asp Met Leu  
 195 200 205  
 Cys Ala Gly Asp Gly Asn His Gly Ser Trp Pro Gly Asp Asn Gly Gly  
 210 215 220  
 Pro Leu Leu Cys Arg Arg Asn Cys Thr Trp Val Gln Val Glu Val Val  
 225 230 235 240  
 Ser Trp Gly Lys Leu Cys Gly Leu Arg Gly Tyr Pro Gly Met Tyr Thr  
 245 250 255  
 Arg Val Thr Ser Tyr Val Ser Trp Ile Arg Gln Tyr Val Pro Pro Phe  
 260 265 270

Pro

<210> 104  
 <211> 264  
 <212> PRT  
 <213> Homo sapiens

<400> 104  
 Leu Ala Ser Arg Ala Tyr Ala Ala Pro Ala Pro Gly Gln Ala Leu Gln  
 1 5 10 15  
 Arg Val Gly Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro  
 20 25 30  
 Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys  
 35 40 45  
 Gly Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys  
 50 55 60  
 Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg  
 65 70 75 80  
 Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile

85								90				95			
Ile	Val	His	Pro	Gln	Phe	Tyr	Thr	Ala	Gln	Ile	Gly	Ala	Asp	Ile	Ala
100								105				110			
Leu	Leu	Glu	Leu	Glu	Glu	Pro	Val	Lys	Val	Ser	Ser	His	Val	His	Thr
115								120				125			
Val	Thr	Leu	Pro	Pro	Ala	Ser	Glu	Thr	Phe	Pro	Pro	Gly	Met	Pro	Cys
130								135				140			
Trp	Val	Thr	Gly	Trp	Gly	Asp	Val	Asp	Asn	Asp	Glu	Arg	Leu	Pro	Pro
145								150				155			
Pro	Phe	Pro	Leu	Lys	Gln	Val	Lys	Val	Pro	Ile	Met	Glu	Asn	His	Ile
165								170				175			
Cys	Asp	Ala	Lys	Tyr	His	Leu	Gly	Ala	Tyr	Thr	Gly	Asp	Asp	Val	Arg
180								185				190			
Ile	Val	Arg	Asp	Asp	Met	Leu	Cys	Ala	Gly	Asn	Thr	Arg	Arg	Asp	Ser
195								200				205			
Cys	Gln	Gly	Asp	Ser	Gly	Gly	Pro	Leu	Val	Cys	Lys	Val	Asn	Gly	Thr
210								215				220			
Trp	Leu	Gln	Ala	Gly	Val	Val	Ser	Trp	Gly	Glu	Gly	Cys	Ala	Gln	Pro
225								230				235			
Asn	Arg	Pro	Gly	Ile	Tyr	Thr	Arg	Val	Thr	Tyr	Tyr	Leu	Asp	Trp	Ile
245								250				255			
His	His	Tyr	Val	Pro	Lys	Lys	Pro								
260															

<210> 105  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
 oligonucleotide primer

<400> 105  
 ctcgtcctcg agggtaagcc tatccctaac

30

<210> 106  
 <211> 31  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
 oligonucleotide primer

<400> 106  
ctcgtcgggc ccctgatcag cgggttttaa c 31

<210> 107  
<211> 36  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
oligonucleotide primer

<400> 107  
ggatccacca tgagtgagct tgtaagagca agatcc 36

<210> 108  
<211> 33  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
oligonucleotide primer

<400> 108  
ctcgagtggg tgcgcatcac ctgcttccag cac 33

<210> 109  
<211> 348  
<212> DNA  
<213> Homo sapiens

<400> 109  
ctcgagtggg tgcgcatcac ctgcttccag cacttttagtg agatcaaaag tgggcataat 60  
accctccctg acatcaggac catctccagg ctcattcctt atcttaagca gagccagttc 120  
ctggttgaata gcttccatgt caggcccttg aaaagcaggc actgcttgat tttcaatctc 180  
cccactaggt gcaataacct gattatcagt tgggtggttc tcttcttgac gtttttcctc 240  
agtgggctcc tggacaatca cagatccaac cggctgggaa gactcttggt catttcctct 300  
ttctgaggat tgggatcttg ctcttacaag ctcactcatg gtggatcc 348

<210> 110  
<211> 111  
<212> PRT  
<213> Homo sapiens

<400> 110  
Met Ser Glu Leu Val Arg Ala Arg Ser Gln Ser Ser Glu Arg Gly Asn  
1 5 10 15  
Asp Gln Glu Ser Ser Gln Pro Val Gly Ser Val Ile Val Gln Glu Pro  
20 25 30

Thr Glu Glu Lys Arg Gln Glu Glu Glu Pro Pro Thr Asp Asn Gln Gly  
           35                          40                          45  
 Ile Ala Pro Ser Gly Glu Ile Glu Asn Gln Ala Val Pro Ala Phe Gln  
           50                          55                          60  
 Gly Pro Asp Met Glu Ala Phe Gln Gln Glu Leu Ala Leu Leu Lys Ile  
           65                          70                          75                          80  
 Glu Asp Glu Pro Gly Asp Gly Pro Asp Val Arg Glu Gly Ile Met Pro  
                           85                          90                          95  
 Thr Phe Asp Leu Thr Lys Val Leu Glu Ala Gly Asp Ala Gln Pro  
                           100                          105                          110

<210> 111  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
         oligonucleotide primer

<400> 111  
 ggatccacca tgattcaaaa gtgtttgtgg cttgagatcc 40

<210> 112  
 <211> 34  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
         oligonucleotide primer

<400> 112  
 ctcgagtttc ctcctgaata gagctgtaaa tttg 34

<210> 113  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
         oligonucleotide primer

<400> 113  
 ggacttgatc agcaagcaga g 21

<210> 114  
 <211> 21

<212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:  
 oligonucleotide primer

<400> 114  
 ctctgcttgc tgatcaagtc c 21

<210> 115  
 <211> 603  
 <212> DNA  
 <213> Homo sapiens

<400> 115  
 atgattcaaa agtgtttgtg gcttgagatc cttatgggta tattcattgc tggcacccta 60  
 tccctggact gtaacttact gaacgttcac ctgagaagag tcacctggca aaatctgaga 120  
 catctgagta gtatgagcaa ttcatttcct gtagaatgtc tacgagaaaa catagctttt 180  
 gagttgcccc aagagtttct gcaatacacc caacctatga agagggacat caagaaggcc 240  
 ttctatgaaa tgtccctaca ggccttcaac atcttcagcc aacacacctt caaatattgg 300  
 aaagagagac acctcaaaca aatccaaata ggacttgatc agcaagcaga gtacctgaac 360  
 caatgcttgg aggaagacga gaatgaaaat gaagacatga aagaaatgaa agagaatgag 420  
 atgaaaccct cagaagccag ggtccccccag ctgagcagcc tggaactgag gagatatttc 480  
 cacaggatag acaatttcct gaaagaaaag aaatacagtg actgtgcctg ggagattgtc 540  
 cgagtggaaa tcagaagatg tttgtattac ttttaciaat ttacagctct attcaggagg 600  
 aaa 603

<210> 116  
 <211> 201  
 <212> PRT  
 <213> Homo sapiens

<400> 116  
 Met Ile Gln Lys Cys Leu Trp Leu Glu Ile Leu Met Gly Ile Phe Ile  
 1 5 10 15  
 Ala Gly Thr Leu Ser Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg  
 20 25 30  
 Arg Val Thr Trp Gln Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser  
 35 40 45  
 Phe Pro Val Glu Cys Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln  
 50 55 60  
 Glu Phe Leu Gln Tyr Thr Gln Pro Met Lys Arg Asp Ile Lys Lys Ala  
 65 70 75 80  
 Phe Tyr Glu Met Ser Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr  
 85 90 95  
 Phe Lys Tyr Trp Lys Glu Arg His Leu Lys Gln Ile Gln Ile Gly Leu  
 100 105 110

Asp Gln Gln Ala Glu Tyr Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn  
 115 120 125  
 Glu Asn Glu Asp Met Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser  
 130 135 140  
 Glu Ala Arg Val Pro Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe  
 145 150 155 160  
 His Arg Ile Asp Asn Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala  
 165 170 175  
 Trp Glu Ile Val Arg Val Glu Ile Arg Arg Cys Leu Tyr Tyr Phe Tyr  
 180 185 190  
 Lys Phe Thr Ala Leu Phe Arg Arg Lys  
 195 200

<210> 117  
 <211> 34  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Description of  
 Artificial Sequence

<400> 117  
 ggatccctgg actgtaactt actgaacgtt cacc 34

<210> 118  
 <211> 34  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Description of  
 Artificial Sequence

<400> 118  
 ctcgagtttc ctctgaata gagctgtaaa ttg 34

<210> 119  
 <211> 540  
 <212> DNA  
 <213> Homo sapiens

<400> 119  
 ctggactgta acttactgaa cgttcacctg agaagagtca cctggcaaaa tctgagacat 60  
 ctgagtagta tgagcaattc atttcctgta gaatgtctac gagaaaacat agcttttgag 120  
 ttgccccaa agtttctgca atacacccaa cctatgaaga gggacatcaa gaaggccttc 180  
 tatgaaatgt ccctacaggc cttcaacatc ttcagccaac acaccttcaa atattggaaa 240  
 gagagacacc tcaaacaaat ccaaatagga cttgatcagc aagcagagta cctgaaccaa 300  
 tgcttggagg aagacgagaa tgaaaatgaa gacatgaaag aaatgaaaga gaatgagatg 360

aaaccctcag aagccaggggt cccccagctg agcagcctgg aactgaggag atatttccac 420  
 aggatagaca atttcctgaa agaaaagaaa tacagtgact gtgcctggga gattgtccga 480  
 gtggaaatca gaagatgttt gtattacttt tacaaattta cagctctatt caggaggaaa 540

<210> 120  
 <211> 180  
 <212> PRT  
 <213> Homo sapiens

<400> 120  
 Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Trp Gln  
 1 5 10 15  
 Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys  
 20 25 30  
 Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr  
 35 40 45  
 Thr Gln Pro Met Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser  
 50 55 60  
 Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Phe Lys Tyr Trp Lys  
 65 70 75 80  
 Glu Arg His Leu Lys Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu  
 85 90 95  
 Tyr Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met  
 100 105 110  
 Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro  
 115 120 125  
 Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn  
 130 135 140  
 Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg  
 145 150 155 160  
 Val Glu Ile Arg Arg Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu  
 165 170 175  
 Phe Arg Arg Lys  
 180

<210> 121  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:oligonucleotide  
 primer



<400> 121  
gcctggagat ggtcctgatg 20

<210> 122  
<211> 31  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:oligonucleotide  
primer

<400> 122  
tgagatcaaa agtgggcata ataccctccc t 31

<210> 123  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:oligonucleotide  
primer

<400> 123  
catcacctgc ttccagcact t 21

<210> 124  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:oligonucleotide  
primer

<400> 124  
gagcctggag atggtcctga 20

<210> 125  
<211> 31  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:oligonucleotide  
primer

<400> 125  
agatcaaaag tgggcataat accctccctg a 31

<210> 126

<211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:oligonucleotide  
         primer  
  
 <400> 126  
 atcacctgct tccagcactt tagt 24  
  
  
 <210> 127  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:oligonucleotide  
         primer  
  
 <400> 127  
 cctggctgtc atggcatatg 20  
  
  
 <210> 128  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:oligonucleotide  
         primer  
  
 <400> 128  
 tgctgcagtc tgcaaaccct tgc 23  
  
  
 <210> 129  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:oligonucleotide  
         primer  
  
 <400> 129  
 gacgtgggtg catgatgatg 20  
  
  
 <210> 130  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>

<223> Description of Artificial Sequence:oligonucleotide  
primer

<400> 130

aggagcaacg tcctctgtaa c

21

<210> 131

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:oligonucleotide  
primer

<400> 131

cttccaacca cactgagcgg ttgag

26

<210> 132

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:oligonucleotide  
primer

<400> 132

acagcatgtc gtccttgatg

20

<210> 133

<211> 95

<212> DNA

<213> Homo sapiens

<400> 133

gtgggaaata tgagtgagct tgtaagagca agatcccaat cctcagaaag aggaaatgac 60  
caagagtctt cccagccggt tggatctgtg attgt 95

<210> 134

<211> 95

<212> DNA

<213> Homo sapiens

<400> 134

gtgggaaata tgagtgagca tgtaagaaca agatcccaat cctcagaaag aggaaatgac 60  
taagagtctt cccagccagt tgtatctgtg attgt 95

<210> 135

<211> 60

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